AMERICAN GAS ASSOCIATION

Y-AUGUST
1952

Chef Marvin Taylor at the Gas range. 1000 meals a day are served to staff and patients at Arlington Community Hospital, North Arlington, Va.

Dietitian Lucile Rice pulls Gas-baked rolls from the oven.

GAS { Air-Conditioning for Comfort / Cooking for Kitchen Efficiency } at Arlington Community Hospital

115-bed Arlington Community Hospital.

Administrator John J. Anderson: "Modern Gas Equipment is . . . dependable and economical."

For comfort and protection of patients and staff, Arlington Community Hospital utilizes modern Gas-fired Air-Conditioning Equipment in the operating wing. The modern Gas Air-Conditioners will provide 2600 cfm of 100% outside air for year-round air-conditioning.

For fast and efficient food preparation, the Modern Gas Kitchen Equipment provides about 1000 meals daily. The following statement reflects the satisfaction of Dietitian Lucile Rice with her Modern Gas Kitchen Equipment: "I depend on my Automatic Gas oven controls to insure low-temperature roasting. This way I reduce meat shrinkage and improve the flavor. I've used other fuels, but find that Gas gives me much better and more economical service."

Planned hospital expansion will nearly double capacity, says Administrator John J. Anderson, and use of Gas equipment will increase accordingly. Mr. Anderson states: "Service from Modern Gas Equipment is faultless—dependable and economical."

For modernization, expansion or new construction, investigate the advantages of Gas for Air-Conditioning and Cooking. Get the facts today—from your Gas Company Representative.

MORE AND MORE...
THE TREND IS TO GAS
FOR ALL COMMERCIAL COOKING

AMERICAN GAS ASSOCIATION • 420 LEXINGTON AVENUE, NEW YORK 17, NEW YORK

Gas air-conditioning and cooking in an ultra-modern hospital are featured in this ad, one of a series inserted in hospital trade magazines as part of A. G. A. promotion of commercial gas load

A RECONNAISSANCE crew of Carter Oil Co. camps near Pass Creek, 15 miles from Mackay, Idaho. Collier photo from Standard Oil Co. (N. J.)

THE automatic clothes dryer, lusty young giant of the gas appliance industry, is growing steadily in total sales and the proportion of the dryer market it commands. Sales of automatic gas dryers advanced from 17.2 percent of the market in 1947 to 27.3 in 1951.

The automatic dryer offers the housewife economies of space and time in a new manner. It offers better appearance and longer life for her washable fabrics. It is readily saleable to the American consumer, who has repeatedly demonstrated a desire for labor- and time-saving mechanical devices. A new appliance, its sales are the more readily made and the more attractive because of the absence of trade-ins. And gas dryers have the edge in competition because an alert sales force can demonstrate that they are faster, cost less to use and less to install.

To aid utilities in furthering gas dryer sales, A. G. A. is conducting a national advertising campaign, and has prepared a promotion program centering around the slogan, "Fresher Than All Outdoors."

In view of the extra load and peak-leveling potentials that dryers offer the gas industry, wholehearted support of the A. G. A. promotion can richly reward each utility.

JAMES M. BEALL
DIRECTOR, PUBLIC INFORMATION

LAURANCE C. MESSICK
EDITOR

RICHARD F. MULLIGAN
ART SUPERVISOR

LOIS G. SCHNEIDER
NEWS EDITOR

EDITORIAL OFFICES:
AMERICAN GAS ASSOCIATION
420 LEXINGTON AVE., NEW YORK 17, N.Y.

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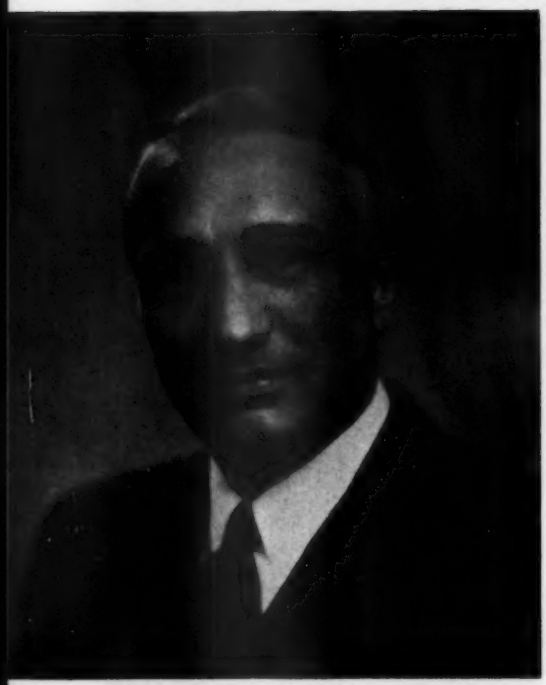
For vice-presidents ▶

EARL H. EACKER

For directors

ERNEST R. ACKER

For president



FRANK C. SMITH

F. M. BANKS

N. HENRY GELLERT

JAMES F. OATES, JR.

For treasurer ▶

EDWARD F. BARRETT

A. G. A. nominates for 1952-1953

L. B. BONNETT

EVERETT J. BOOTHBY

DUDLEY B. W. BROWN

A. W. CONOVER

LYLE C. HARVEY

FREDERIC O. HESS

ROBERT A. HORNBY

PAUL KAYSER

W. T. STEVENSON

ROCK G. TABER

GEORGE E. WHITWELL

CHARLES G. YOUNG

Gas industry leaders from all parts of the United States have been nominated for election as officers, directors and section chairmen of the American Gas Association. Representatives of manufactured, natural and mixed gas companies, as well as those of holding companies and appliance manufacturers, constitute the slate.

Nominations for Association officers, directors and section officers will be voted on at the 1952 A. G. A. Convention, Atlantic City, N. J., October 27-30. Any 50 company members can make additional nominations by placing them in the hands of the Association's managing director by August 27, 1952.

Recommendations for election of a president, two vice-presidents, a treasurer, 15 directors and 12 section and general committee chairmen and vice-chairmen have been made by the General Nominating Committee. Upon election, nominees for chairmen of A. G. A. Sections and general committees automatically become Sectional vice-presidents of the Association.

Elected at the Association's 1951 convention, St. Louis, October 15-17, The General Nominating Committee consists of: E. M. Borger, The Peoples Natural Gas Co., Pittsburgh, chairman; Frank H. Adams, Surface Combustion Corp., Toledo; Paul R. Buchanan, The Hartford Gas Co.; N. Henry Gellert, Seattle Gas Co; Robert W. Hendee, Colorado Interstate Gas Co., Colorado Springs; and Claude A. Williams, Transcontinental Gas Pipe Line Co., Houston.

The following list of nominations is brought to the attention of the A. G. A. membership, in accordance with the provisions of the Association's by-laws:

For president—FRANK C. SMITH, president, Houston Natural Gas Corp., Houston, Texas

For first vice-president—EARL H. EACKER, president, Boston Consolidated Gas Co., Boston, Massachusetts

For second vice-president—F. M. BANKS, president and general manager, Southern California Gas Co., Los Angeles, California

For chairmen

B. S. RODEY, JR.
Accounting Section

TERRY HART
Industrial and
Commercial Gas Section

R. J. VANDAGRIFF
Residential Gas Section

C. W. WILSON
Operating Section

ARTHUR F. BRIDGE
Laboratories
Managing Committee

GORDON LEFEBVRE
Manufacturers' Section

W. M. KIMBALL
Publicity and
Advertising Committee

For vice-chairmen

PAUL E. EWERS
Accounting Section

CHARLES C. EELES
Industrial and
Commercial Gas Section

RAYMOND LITTLE
Residential Gas Section

F. J. PFLUKE
Operating Section

C. H. WARING
Laboratories
Managing Committee

For treasurer—EDWARD F. BARRETT,* president, Long Island Lighting Co., Mineola, New York

For director—two year term expiring October 1954

E. R. ACKER, president, Central Hudson Gas & Electric Co., Poughkeepsie, New York

L. B. BONNETT,* vice-president, Consolidated Edison Co. of New York, Inc., New York

EVERETT J. BOOTHBY,* president, Washington Gas Light Co., Washington, D. C.

DUDLEY B. W. BROWN, president, Milwaukee Gas Light Co., Milwaukee, Wisconsin

A. W. CONOVER,* president, Equitable Gas Co., Pittsburgh, Pennsylvania

N. HENRY GELLERT, president and general manager, Seattle Gas Co., Seattle, Washington

LYLE C. HARVEY,* president, Affiliated Gas Equipment, Inc., Cleveland, Ohio

FREDERIC O. HESS,* president, Selas Corp. of America, Philadelphia, Pennsylvania

ROBERT A. HORNBY,* executive vice-president, Pacific Lighting Corp., San Francisco, California

PAUL KAYSER, president, El Paso Natural Gas Co., Houston, Texas

JAMES F. OATES, JR., chairman, The Peoples Gas Light & Coke Co., Chicago, Illinois

W. T. STEVENSON, president, Texas Gas Transmission Corp., Owensboro, Kentucky

R. G. TABER,* president, Atlanta Gas Light Co., Atlanta, Georgia

GEORGE E. WHITWELL, vice-president in charge of sales, Philadelphia Electric Co., Philadelphia, Pennsylvania

CHARLES G. YOUNG,* president, Springfield Gas Light Co., Springfield, Massachusetts

ACCOUNTING SECTION

For chairman

BERNARD S. RODEY, JR., assistant secretary, Consolidated Edison Co., of New York, Inc., New York

For vice-chairman

PAUL E. EWERS, commercial office manager, Michigan Consolidated Gas Co., Detroit, Michigan

INDUSTRIAL AND COMMERCIAL GAS SECTION

For chairman

TERRY HART, general sales manager, Nashville Gas Co., Nashville, Tennessee

For vice-chairman

C. C. EELES, district industrial sales manager, The Ohio Fuel Gas Co., Toledo, Ohio

RESIDENTIAL GAS SECTION

For chairman

R. J. VANDAGRIFF, general sales manager, Laclede Gas Co., St. Louis, Missouri

For vice-chairman

RAYMOND LITTLE, general sales manager, Equitable Gas Co., Pittsburgh, Pennsylvania

* Renominated

(Continued on page 52)

Drive in the mavericks and corral the profits!

Housewives are given friendly advice in homely style by the cowpoke on this eye catching mounted and easeled display piece. Useable on floor or counter it measures 36 inches by 44 inches and is available from A. G. A.

a PAR activity

Old stoves—squat and square or sleek and rectangular—all are heading down the trail for the fourth annual Old Stove Round Up.

This national campaign opportunely is scheduled for the height of autumn buying, from September 7th through November 30th. Within these 85 sales days, it is estimated that about a million old-style gas ranges, squats and sleeks, will have been replaced by 1952 modern automatic models. The Old Stove Round Up is a PAR activity, sponsored by the American Gas Association with the cooperation of the Gas Appliance Manufacturers Association.

National advertising will spearhead the campaign, paving the way for local follow-ups and follow-throughs with local newspaper advertising mats and point-of-purchase display kits. As in the past, the drive generally will be patterned after similar successful merchandising events of previous years.

Four-color double spreads and single pages also in four colors suggestively will tell housewives, "In 24 hours you can have the start . . . and the heart of your modern kitchen." The kick-off advertisement will appear in the September issue of *Woman's Day*, continuing with October insertions in *Good Housekeeping, Woman's Home Companion, American Home, Today's Woman* and *Family Circle*.

Coming down the final stretch of the sales trail, November advertisements will appear in *Life, Ladies' Home Journal, Better Homes and Gardens* and *Parents*. All told, these ten advertisements will have registered a grand total of 321,864,000 reader sales impressions.

Complementing these national insertions will be local advertising mats. A series of three such advertisements can be utilized by utilities as center pieces for a page, or double-spread of dealer advertisements. One of these advertisements centers around shopping features for which housewives should look. A kitchen scene with blank space for a range, along with a suggestion that the housewife-reader decide for herself which automatic gas range belongs in that spot in her own home, appears in a second advertisement. And the third shows a clock face with varied gas range features which apply to various hours of the day.

Point-of-purchase kits also are being

made available for use in salesrooms, focal points of the sales trail. Included are display pieces, counter cards, jumbo price tags, banners and pennants. A mounted and easeled display piece presents a space-saving waist-high cowboy drawling, "Yes Ma'm! Your Cookin' Will Be Even Better on This New Automatic Gas Range. Fastest! Cleanest! Most Modern!" As flexible as gas itself, this sign can be modified so that the last four words can be eliminated and brand names of gas ranges substituted.

Another display comprises a seven-piece "see-through" group for use in windows with ribbons tying-up from small window promotion pieces to the appropriate range features. These are printed on acetate for use on the inside of display windows. These ribbon sales-lines say:

"Simmer for soups and sauces." "Always clean—always cool."

"Clock-control—cooks while you're away."

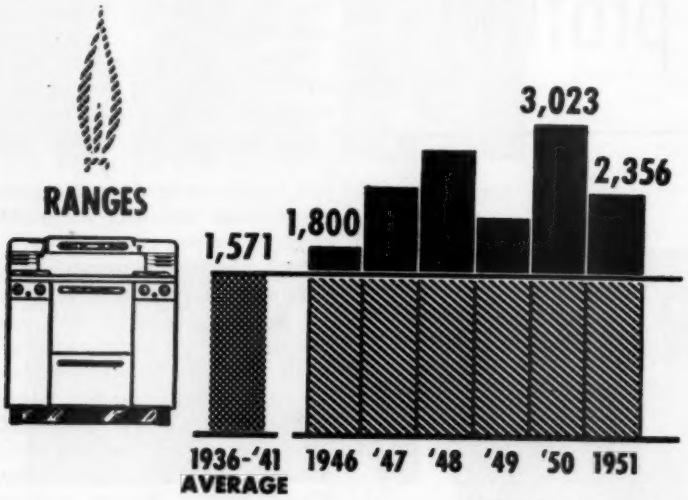
"Speed for morning coffee." "Even the oven lights without matches."

And, "Smokeless broiling with the door closed."

Two sets of pennants individually repeat the leitmotif of words, "It's gas!" after such statements as, "It's fast. . . . It's thrifty. . . . It's modern. . . . It's clean. . . . It's automatic. . . . It's Old Stove Round Up Time."

Complete kits, costing $8.00, fob, are available from the Order Department, American Gas Association, 420 Lexington Ave., New York 17, N. Y.

In recent years major appliance sales have been bobbing up and down upon uncertain economic waves. From 1947 to 1951, inclusive, postwar sales of gas ranges averaged 2,536,000, according to Gas Appliance Manufacturers Association. In 1948 unit sales were 2, 750, 000. Two years later domestic gas range sales increased to 3,031,300 units, along with peak sales throughout the consumer durable goods field. In 1949 sales totaled 2,106,000 gas ranges, and 2,356,400 units in 1951.



Gas appliances have been in sharp demand during the postwar period. The nearly 15 million gas ranges sold since 1945 (GAMA figures) represent one new range for every third home in the United States. Electric ranges were outsold two to one

Meanwhile, GAMA statistics show promise of greater Old Stove Round Up sales through replacements by modern gas ranges. About 21,225,700 gas ranges were sold in the last 12 years, including the war years when gas range sales were at a minimum. Altogether, there are about 29,662,000 gas ranges in use today. Of this number, GAMA records list 8,436,000 units—each more than 12 years old—which are all eligible for replacement.

Thus, statistics indicate that of the twenty-nine-and-a-half million domestic gas ranges in use, 28 percent or about three-of-every-ten domestic ranges are pre-war models which are A-1 prospects for replacement by new 1952 models.

Latest innovations in automatic gas ranges include a griddle thermometer control. Temperatures can be set to assure uniform quality and speed in preparing griddle cakes, hamburgers and countless other dishes. Some ranges provide extra working surface with a wheel-about table-top storage cart which fits right into the range. One range offers all conventional top-of-range, oven and broiler facilities plus a smaller, fully-insulated auxiliary oven. The small oven, built right into the top of the range, is equipped with its own automatic heat control. Other ovens have broiler grids, designed to keep fat from the fire. These grids are made of materials such as porcelain, chromium or aluminum alloy which can easily be washed in soapy water.

Matches are not necessary in kitchens equipped with gas ranges which have automatic oven and broiler ignition built-in to rigid safety specifications. Housewives now can see "what's baking" without risking a dropped layer cake. This is made possible in many modern automatic gas ranges which have "picture window" ovens with illuminated interiors. A fluorescent lamp built-in across the backsplash helps housewives to avoid cooking in dark. Other features of modern automatic gas ranges include silent-glide drawers that move on roller bearings; thinner, harder and more stain resisting enameling; balanced heat oven, and flush-to-wall construction.

A minor boost was given to sales of ranges on May 7, 1952 when the Federal Reserve Board suspended Regulation W which had halted installment buying since September, 1950. Large cash down payments no longer are necessary, and time for payments has been extended. Although it it too early to determine a trend, sparse reports from dealers indicate a small fillip to sales has resulted after the credit curb was lifted.

Last year the Round Up helped raise gas range sales out of the doldrums. This year indications are that an increasing number of dealers will participate in the program by September. Approximately 75 percent of the utilities were active in this campaign last year. In addition, about 80 percent of utilities supplying gas to the country will continue to be included among Round Up participants. They're all hitting the sales trail, working to get automatic range sales to advance with the Old Stove Round Up.

Research and Utilization Conference reports
recent laboratory findings and cites problems that demand solution

Research bridges gap to sales

Among Research and Utilization Conference leaders were: Hale A. Clark, Detroit, chairman, Industrial and Commercial Gas Research; Leon Ourusoff, Washington, conference chairman; H. W. Geyer, Los Angeles; and Edwin L. Hall, Cleveland. Each led a session as moderator of a clinic

Research group panels were led by chairman C. L. Elliott, Cincinnati, Domestic Gas Water Heating; K. H. Flint, Kalamazoo, for Dr. W. R. Hainsworth, General Utilization; Dr. F. E. Vandaveer, Cleveland, Heating and Air Conditioning; and H. A. Brown, Rochester, Domestic Gas Cooking

a PAR activity

Research constantly challenges us "not to hope to solve present problems without creating more of them," Leon Ourusoff keynoted in a "militant" opening talk at the Seventh Annual Research and Utilization Conference.

Results stemming from American Gas Association PAR Plan research programs, and utilization problems, were reviewed by more than 350 utilization engineers and general personnel of gas companies and gas appliance and equipment manufacturing companies. The meeting was held June 5 and 6 in the Hotel Statler, Cleveland, under the auspices of the Committee on Domestic Gas Research and the A. G. A. Utilization Bureau.

Among innovations this year was a series of independent panel discussions on cooking, heating and air conditioning, water heating and general utilization research. Although held simultaneously, these sessions were summed up afterwards at a single general session. Also featured was a clinic on the role of the gas company utilization laboratories in the over-all gas industry picture.

Special exhibits, demonstrated concurrently at A. G. A.'s Cleveland Laboratories, included new smaller burners with lowered grates to improve range top appearance; two British-made compact gas ranges; a faster commercial deep fat fryer; new measuring instruments developed to improve testing results, and planned ventilation for some rooms equipped with heater, dryer or furnace.

About one million dollars have been spent on A. G. A. Domestic Gas Research since the PAR Plan program was inaugurated, said Mr. Ourusoff who is a member of the Committee on Domestic Gas Research and manager of utilization, Washington Gas Light Co., Washington, D. C.

Inherent in a review of recent domestic research projects was the "VIC for VICtory" which Mr. Ourusoff quoted as differentiating gas from its chief competitor. "VIC spells Venting-Ignition-Combustion—a triple problem. VIC should be viewed as a liability which proper research and ingenuity can turn into an asset," he continued.

Looking to the brighter side, Mr. Ourusoff said "the PAR Range Ignition Program is developing into a truly successful venture, already spreading to the

commercial range group." Beyond laboratory research he envisioned a "partnership of manufacturers, utility engineers and A. G. A. personnel" whose work in "design, research and systematic field observations converge and merge."

Whenever industry is sufficiently determined and "when enough pressure is exerted," he said, then the "notorious 'ten-year lapse' between the release of a research bulletin and the initial stage of marketing" can be streamlined into quicker results. He referred to the commercial research project on deep fat fryers as an example.

Other shining products of gas success, said Mr. Ourusoff, include the outstanding research in heat transmission and the excellence with which research data and findings are prepared and presented in A. G. A. bulletins. In conclusion he repeated that "research always stems from dissatisfaction."

"Where a gas appliance is connected to a vent, it is certainly the intent that flue gases be conducted to the outdoor atmosphere," said Keith T. Davis, manager, sales, engineering and information section, Bryant Heater Division, Affiliated Gas Equipment, Inc., Cleveland. Since most installations perform successfully, he said, occasional exceptions stimulate concern and much skepticism. Mr. Davis said that as a PAR activity, A. G. A. instituted an investigation to determine why certain appliances perform erratically.

Probing the design of a venting system, he continued, one needs to know the characteristics of the appliance as well as the environment in which it is installed and the vent system to which it is connected. He further stated that to understand and cope with the problem "it is necessary to re-examine the physical laws pertaining to venting to determine under what circumstances the present rule-of-thumb design standards do not provide adequate safety factor."

While some solutions have been reached, more research and practical study is planned to reach better understanding of the problems involved. Some of this work is continuing at the A. G. A. Laboratories, along with complementary researches at Purdue and the University of Illinois, both under A. G. A. auspices. Mr. Davis stated that such work should offer deeper basic knowledge of gas appliance venting system performance.

Venting was among basic problems of appliance installations discussed by Ralph E. Cramer, chief standards engineer, A. G. A. Laboratories. Appliance servicing also is becoming more complex, he said, particularly automatically-operated types installed flush-to-wall. Furnace manufacturers may construct units which are inherently excellent, Mr. Cramer went on, but installers sometimes place these units too close to other appliances or building members and thus negate all advantages. Apparently a great part of this problem is provoked by boilers and furnaces installed in confined spaces such as "utility" rooms which, he added, are becoming more prevalent in smaller homes being built without basements.

Requirements are being prepared to cover the installation of conversion burn-

Participants in the clinic to study the role of the gas company utilization laboratories in the over-all gas industry picture were: Edwin L. Hall, A. G. A., Cleveland, moderator; A. E. Stack, Washington; Harry L. Warren, Los Angeles; W. D. Egan, Chicago; and C. C. Winterstein, Philadelphia

Hale A. Clark, chairman, A. G. A. Industrial and Commercial Gas Research, made the presentation of a wrist watch to Eugene D. Milener, now secretary of the A. G. A. Natural and Manufactured Gas Department, in appreciation of long years of service to gas utilization research

Speakers at the final session of the conference, Friday afternoon, were: Joseph Grumer, Bureau of Mines, Pittsburgh; Walter B. Kirk, A. G. A. Laboratories, Cleveland; and Kenneth Wood, The East Ohio Gas Co., Cleveland

Speakers on various programs find amusement between sessions. They are, left to right, Edgar A. Jahn, A. G. A., New York; W. D. Relyea, Newark, N. J.; and Professor Robert W. Roose, University of Illinois

The Friday luncheon head table group: W. B. Kirk, Cleveland; C. C. Winterstein, Philadelphia; C. L. Elliott, Cincinnati; J. A. Hughes, Cleveland; Brig. Gen. J. W. Sessums, Jr., USAF; Leon Ourusoff, Washington; H. W. Geyer, Los Angeles; H. A. Brown, Rochester

Speakers at the Thursday morning opening session of the conference were: Keith T. Davis, Cleveland; E. F. Hart, Boston; William M. Myler, Jr., Columbus; and Ralph E. Cramer, A. G. A., Cleveland

Among those at the speakers' table during the Thursday luncheon were: Hale A. Clark, Detroit; Leon Ourusoff, Washington; J. F. Donnelly, Kankakee, GAMA president-elect; Eugene D. Milener and Edwin L. Hall, both of A. G. A.; and Harold Masey, GAMA

ers in coal ranges on the eastern seaboard, said Mr. Cramer. He also noted the perennial question of vented-versus-unvented appliances.

Work started seven years ago by Battelle Memorial Institute to establish, among other factors, a basis to evaluate the expression "black iron or its equivalent," was the topic of a paper by William M. Myler, Jr., chief engineer, Janitrol Engineering Department, Surface Combustion Corp., Columbus, Ohio. To investigate the corrosion of metals and materials by products of combustion of gaseous fuels, the PAR Committee invested almost $90,000 of A. G. A. research funds. The Battelle project is scheduled to be completed this year, said Mr. Myler.

This year, he went on, additional tests are being conducted to determine effects of fabricating processes, "such as welding and bending, may have on the corrosion behavior of materials." Thus far, he said, gratifying results show that "it is possible by choosing welding techniques to fabricate these materials without seriously altering their corrosion behavior characteristics."

In addition to using special steels, he observed that aluminized steel was a relatively low-cost material which showed exceptional resistance to corrosion. "Now that we have $90,000 worth of data on 'black iron or its equivalent,'" Mr. Myler challenged, "how long is it going to be before we really take advantage of our new-found knowledge?"

Further research remains to be done to help solve the intricacies of multi-story venting, said E. F. Hart, superintendent, customers service, Boston Consolidated Gas Co., Boston, Mass. He reviewed some of the difficulties of multiple venting in three inter-connected buildings, erected in 1937, which have 151 apartments. These are arranged in tiers, each with separate chimney, in the buildings which are six stories high.

Forced warm air type heating systems are used, with the most unique feature being that each apartment has its own closet-like heater room 25 inches deep by 54 inches long, next to the kitchen, with air for combustion supplied by a 5 inch by 9 inch outside air duct for each heater room.

Higher chimneys and better introduction of outside air for combustion purposes to the heater room, were among recommendations made by Mr. Hart. He also suggested that charts in the *Gas Engineers' Handbook,* 1934; *A. G. A. Comfort Heating,* 1938, and the *Heating & Ventilating Guide,* "are the most conservative, and should be used for determining flue sizes until more research has been made as we believe some oversizing is permissible without harm to draft factors."

"In the field of research the big problem has been, is, and probably for some time will continue to be, how to shorten the time and distance between the research laboratory and the consumer's kitchen," said H. Carl Wolf, managing director, American Gas Association, in a message read by T. L. Robey, A. G. A. research coordinator. His message also referred to an industry competitor who "gloats about the thousand uses of his product but in his kitchen range he is limited to five heats. Here we are, an industry with 1,000 heats and yet limited with home appliances to seven uses."

In his first public appearance as president-elect of the Gas Appliance Manufacturers' Association, J. F. Donnelly, assistant general manager, A. O. Smith Corp., Kankakee, Ill., stated that the march of progress has been made over a road paved by research. He urged that more money be channeled into research

(Continued on page 50)

Procuring pipeline rights of way is an exercise in public relations, horse trading, legalistics and courtesy

Make friends of land owners

By B. K. DUNSHEE

Manager, land department
Pacific Gas and Electric Co.
San Francisco

and H. I. PUTNAM

Head of right-of-way
Texas Eastern Transmission Corp.
Shreveport

Part I—B. K. Dunshee

Courtesy—made up of understanding consideration and wholesome respect for the other fellow is one of the best means of forestalling or overcoming the opposition of landowners from whom rights-of-way grants are sought. Such courtesy will include fairness and honesty, but does not preclude a hard-headed analysis of the economic and human factors involved and a correspondingly shrewd negotiation.

The request to survey across a landowner's property is usually the first intimation to him that the pipeline company may want to lay pipes there. This initial interview may set the tone of the future relationship and should be undertaken only by an experienced and capable man.

If successful, he will not only obtain the permission he seeks, but he will have implanted in the owner's mind an idea of the magnitude and dramatic aspects of the project which may mature into a desire to become a part of it.

If the engineers will follow through by discussing with discretion some of the location problems facing them and by seeking his advice on such details as ground stability and flood flows in the streams, they may succeed in demostrating to him that the impersonal and presumably heartless corporation of which he has heard is composed of ordinary fellows sincerely trying to do a job. If the mystery can be dispelled and his suspicions allayed, he will become interested and may join our team.

The route should be selected with full consideration of the present and potential uses for which the land is adaptable so that, consistent with the primary objective of a line which can be constructed and operated economically, it will result in minimum damage to the landowner. The same consideration should govern our decisions on the depth at which the pipe is to be laid and the location of valves and other surface obstructions.

Right-of-way grants should be written in simple language, devoid of legalistic words and phrases and without the fine print and all that it implies. It should accurately and completely define the respective rights and obligations of the parties by the use of words familiar to any high-school graduate.

A form of grant that has proved to be mutually satisfactory describes the premises encumbered and the right-of-way strip. It includes the right to use a reasonable area adjacent to the right of way for construction purposes and provides for ingress and egress. Gates may be installed in fences.

No wells or buildings are permitted in the right of way. This is for the protection and convenience of both parties.

The area encumbered by the grant is limited to the smallest practical area, and ingress or egress is limited to existing roads where such exist. When none exist, permission is included to construct roads where reasonably necessary. The owner will be paid for damages caused by ingress and egress and for wrongful or negligent acts of the company and its employees.

Once the landowner has become reconciled to the location of the line through his property the question of price becomes of paramount importance to him and to the company. It deserves the early thoughtful consideration of those in the upper strata of the right-of-way organization. After a considerable amount of experimentation over the years, we, in Pacific Gas and Electric Co., have come to the conclusion that the fair value of a pipeline easement in agricultural or other rural land lies in the range of one-third to one-half the fee value of the land in the easement except in extraordinary cases. We do not find

Abridged version of a two part paper presented before the Natural Gas Department Spring Meeting, Los Angeles, May 12-13, 1952.

any merit in the theory of severance damage, i.e., a diminution in the value of land outside the right of way as a result of the taking of the easement.

Whatever the theory of right-of-way valuation, it is fundamental that the prices to be paid be well thought out in advance and that they be uniform for like lands similarly affected. There is no more prolific source of trouble than a spotty price structure. We will lose the respect of the man to whom we pay too much and gain the distrust of the one to whom we pay too little. In either case a healthy friendship has been destroyed.

Whether the job thus far shall have been well or poorly done determines in large part whether the right-of-way agent shall meet a friend or an enemy, but in either event no excuses are acceptable from him. He must bring in the executed grant—and on time. He is the butt for all past mistakes, real and imaginary, of his and other companies. If prices have been unfair, location improper, construction methods sloppy, claims unsettled in the past, he hears all about it.

This irrepressible front line soldier is obviously honest and straightforward, patient, considerate and resourceful. He likes his job because he likes to deal with people. He is a salesman of the highest type who deals with facts and does not employ so-called "high pressure" techniques. He knows land values, particularly the value of the land on which he seeks a right of way. He can speak authoritatively on the effect of such rights of way on the utilization and value of land. He knows within narrow limits what price he can afford to pay and be fair to the company, to the landowner, and to the others along the route of the line. He has reasonably accurate knowledge of his company's methods of construction and operation so that he can clearly inform the landowner how his operations will be affected. He will make no promises that will not be observed. With such a background, with training and with experience, he is on his own. All he has to do is keep a steady flow of papers coming into the office—each correctly signed, without alterations or erasures and at the right price.

The right-of-way agent differs from a salesman in one important respect: He must get them all, right down the line. He cannot fill his quota by signing up some business in the next county. It is not easy. The arguments will be long and hot. He must separate fact from fantasy. He must know intuitively when to listen and when and how to drive for a decision. If his teammates in field and office have done their jobs well, and if he is the right man, well trained, the accomplishment of his mission is not impossible, but it is a man's job. With complete confidence in his own ability; believing in the fairness of his proposal; he will be able to apply the compelling power of facts logically, patiently, firmly, but with never-failing courtesy. In the vast majority of cases he will obtain the right of way and in the process he will gain the respect and cement the friendship of the owners of the land through which our pipeline will be constructed and operated throughout the years to come.

Part II—H. I. Putnam

The problems of right of way and the functions of right-of-way men extend past procuring rights of way for pipeline and are involved in following the actual pipeline construction through the settlement of damages and claims.

An important feature and one that can be of great help in maintaining satisfactory relations with people along the right of way is that the contractor doing the construction has the construction know-how to stay within right-of-way limits and personnel indoctrinated so as not to alienate the land owners and other people living along or near the right of way. Contractor's employees should have a reasonable respect for the rights of property of others and should have a desire to cooperate and work with the right-of-way agent assigned to the construction spread. The agent needs as much help as possible in handling a job that requires not only a lot of diplomacy but also a sizeable amount of luck.

The right-of-way agent in a sense is a specialist as much as a lawyer or an engineer and he must have not only know-how and experience, but also a natural knack for getting along with people. People of those talents are not easy to find and upon their careful selection largely depends the number of friends the pipeline company will have along the right of way.

The agent's first job after the right of way has been secured is to notify land owners and tenants a short time prior to the actual start of construction. From then on he has a thousand and one jobs to do in order to forestall difficulties that may arise, and he must take steps to prevent any unnecessary inconvenience to the public or the right-of-way land owners. This includes a multitude of things such as seeing that fence gaps are closed when necessary, seeing that necessary bridges are built across the ditch and that ingress and egress roads are maintained during construction. At the same time the right-of-way man must endeavor to see that the contractor stays within the limits of the right of way. The agent must keep a running record of damages as they occur and investigate as promptly as possible the many complaints that are invariably registered by land owners and tenants.

In the past, a ruthless policy was frequently followed by pipeline construction crews, and the hangover of ill will developed from some of those construction jobs still plagues the areas where they occurred.

A little simple consideration and thoughtfulness could have prevented most of this. Today corporations are following a much more sound and enlightened policy, and every effort is made at the present time to do as much as possible to prevent embarrassment and bad feeling. One case in point is that nowadays the agent with a construction spread endeavors to give proper notice to the landowners and tenants when the spread will begin work on or near the property. He does this although the company was granted an easement and has the right to start construction at anytime without notice.

The notice that is given the landowners frequently is a real benefit to him, and, as a consequence, is a direct benefit to the agent's company. Advance notice gives the farmer time to save some crops which might be destroyed by the clearing crew and often permits him to move cattle from one field to another. Without

this notice it would not be possible, and cattle claims might result. As everybody knows, nothing but fine registered cattle are ever injured or destroyed, and cattle claims are a perennial thorn in the side of most companies. Perhaps more important than anything else is the fact that the landowner who has received advance notice is prepared to some extent by the awesome sight of real pipepine construction crews coming into view. If you have never seen a fast moving crew with all of its equipment come over the brow of a hill, bulldozing crops, cutting fences and stringing pipe, you should do so. Sometimes the first appearance is like a tornado with modern equipment.

The right-of-way agent should see that the fences are maintained in good repair and arrangements made to provide crossings of the ditch for cattle. He must, as far as possible, help in maintaining good relations between the farmer and the contractor. To a large extent this consists of confining the contractor within the limits of the right of way.

A right-of-way agent must investigate all complaints at the source and make a detailed and comprehensive report on the case. Experience shows that the agent should never attempt to deal directly with the contractor. In many cases the agent is not consulted relative to a complaint registered by the farmer, and the contractor, or his employees, endeavor to settle with the farmer in order to prevent a slow up or stoppage of construction. As a rule, these settlements are only temporary and result in new problems to an agent when he approaches the farmer to make final damage settlement. Therefore, it is important that the agent see that the contractor and his employees refer all complaints from the landowners directly to the agent assigned to the construction.

The agent is, of course, as anxious as the contractor to see that the job is done and done as quickly as possible, but an important part of the agent's job is not to lose sight of the fact that the farmer has property, property values and rights which must be protected. Any good right-of-way agent realizes that he must at all times maintain consideration of the people with whom he deals and an understanding of their rights and problems. This does not in any sense mean that the agent does not endeavor to do the best possible job for the company from the standpoint of expenses. He will nevertheless expect that the policy of the pipeline company is to make fair and equitable use of the right-of-way easement. Few pipeline companies worthy of the name want to pay less than fair damages. They simply want to see that they pay as little premium as possible.

The settlement of damages is also within the field of the right-of-way agent. The adjustment of construction damage claims should be made as soon as possible after cleanup is completed. Trained crews follow behind the pipeline construction crews and endeavor to restore the property and terrain to as nearly as possible its original appearance. When weather continues and seasons permit, seeding is done and every effort is made to prevent leaving conditions suitable for erosion and other problems which could result in a loss in land values. In any case, the agent looks at the picture after the cleanup crew has passed and then endeavors to make a damage settlement as soon as possible with the landowner. No attempt should be made to settle damages until the adjustor for the company and owner of the land, or his representative, have had occasion to get together right on the spot where the damages occurred. At this time the adjustor should have with him, for reference, a map indicating the route and distance of the pipeline across the property concerned, together with a form prepared by the agent assigned to construction. This form should contain an actual record of the number of trees destroyed, the distance through which the pipeline crosses, the exact data as to whether fences have been properly repaired and whether or not livestock have been injured or killed.

With this information the adjustor is in a position to discuss and reach an agreement with the farmer as to the actual width and length of crop and other

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PAR committee reports cite four-month progress

a PAR activity

Advances won for the gas industry, during the first four months of 1952, through the A. G. A. PAR Plan, were reported at the Par Committee meeting, May 14, in Yosemite, California.

Seventeen domestic, eight industrial and commercial, nine natural gas production and transmission and 11 gas production research projects were being conducted under the PAR Plan, the Research Planning Committee reported. Research on deep fat fryers in 1951 resulted in four manufacturers of this type of equipment making new designs and submitting them to the A. G. A. Laboratories for engineering testing.

Research reports were devoted to:

"The Mechanism of Water-Gas Reaction: Rate of Carbon-Steam Reaction;" "Comparative Study of Various Methods of Cooking;" "Study of Performance Characteristics of Gas Boilers Equipped for Hot Water and Space Heating Service;" "Manual for the Design of Box Plenum Type Air-Conditioning Duct Systems;" "Prospective Methods and Estimated Cost for Removing Excess Nitrogen from Natural Gas;" and "Study of Performance Characteristics of Gas Boilers Equipped for Hot Water and Space Heating Service."

In March the Gas Production Research Committee initiated, "A Critical Survey of Methods of Making High Btu Gas from Coal." This survey is expected to have value both for the guidance of research committees and for the general information of gas industry executives.

Human comfort conditions as influenced by air stratification is the subject of Research Project DGR-7-C, being conducted at the University of Illinois. No. 397, the first publication on the project describes the results of modulated heat application in a specially instrumented experimental residence.

Three new industrial and commercial gas research projects have been undertaken: Project IA-5, "A Study of Various Methods of Heat Application to Commercial Range Heavy Duty Top Sections"; Project IA-6, "Investigation of Results Obtainable by Pre-Mixing Varying Amounts of Oil with Industrial Gases before Combustion at Elevated Temperatures"; and IK-7, "A Study of the Effect of Heating Rate by Gas on Metal Flow Characteristics or Plasticity and Die Wear."

The Institute of Gas Technology is

(Continued on page 49)

"Gas does a better job" was convincingly presented to over three-thousand homemakers who attended a series of Spring Style Shows sponsored jointly by Portland (Ore.) Gas & Coke Co. and a local exclusive women's dress shop

Style show features new ranges

The annual Spring Style Show was given an enthusiastic start in Portland, Ore., when Portland Gas & Coke Co., and Charles F. Berg, an exclusive women's shop, combined forces to present three informative double-feature stage shows. How to be a "model homemaker," from the standpoint of both food and fashion, was the theme of these productions.

Judging from the enthusiastic reception of "standing room only" audiences on each occasion, the shows were a huge success, according to R. G. Barnett, vice-president of the utility. An estimated crowd totaling over 3,000 women attended the three performances in Portland's largest neighborhood theatres.

Mrs. Rita Calhoun, home service director for Portland Gas & Coke Co., led off the show with "Food Is Fun," a demonstration of cooking "know-how." She presented her delicious oven dinner for eight that was featured in the January issue of *Woman's Home Companion*. While baking the cake in one of seven gas ranges displayed on the theatre stage, she told the women, "You can't tell which cake layer was baked on which rack because the heat circulates so evenly in the modern gas oven."

Charles F. Berg "Fashion Is Fun" show featured 60 spring-into-summer styles for around-the-clock activities.

In preparing for the lively two-hour show no avenue of publicity was overlooked by Portland Gas & Coke Co.'s advertising, sales promotion and publicity departments. Invitations were sent to 75 Portland women's organizations, advertisements and news articles appeared in metropolitan newspapers and neighborhood shoppers and placards were distributed to business houses in the area where the program was scheduled that week.

Mrs. Calhoun was interviewed on the homemaking programs of Portland radio stations and spot commercials were placed to catch the greatest number of women listeners.

Each lady in the audience registered when entering the theatre by signing a card listing the registrant's preference for gas appliances. The cards later were followed up by company salesmen for direct sales in the field.

Numerous prizes were given away—including Mrs. Calhoun's oven dinner for eight—at each performance. Neighborhood appliance dealers and merchants, as well as gas appliance representatives, cooperated by donating prizes to be awarded at the show as an incentive for bringing women shoppers into the neighborhood community.

At each show 10 of the latest style spring hats were given away by the sponsoring companies. And for those who didn't win one of the beautiful $20 hats, the women were told that with the purchase of a new modern CP gas range, a hat of the lady's choice would be presented the purchaser during the spring range sales campaign.

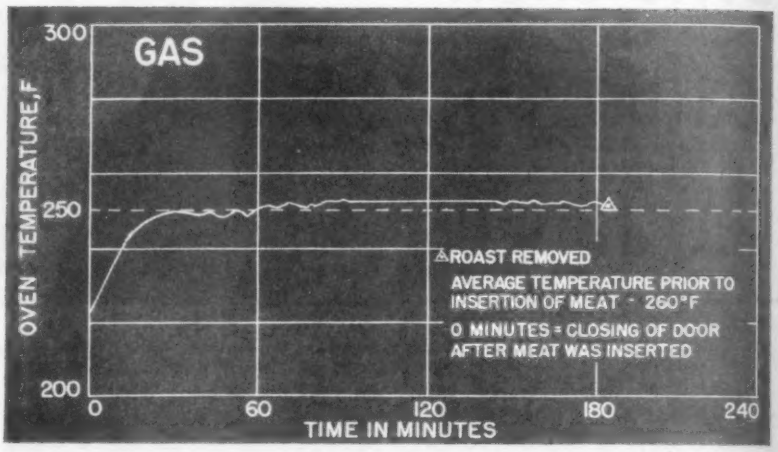
A. G. A. laboratories experiments on beef roasts answer questions about domestic gas and electric range comparisons

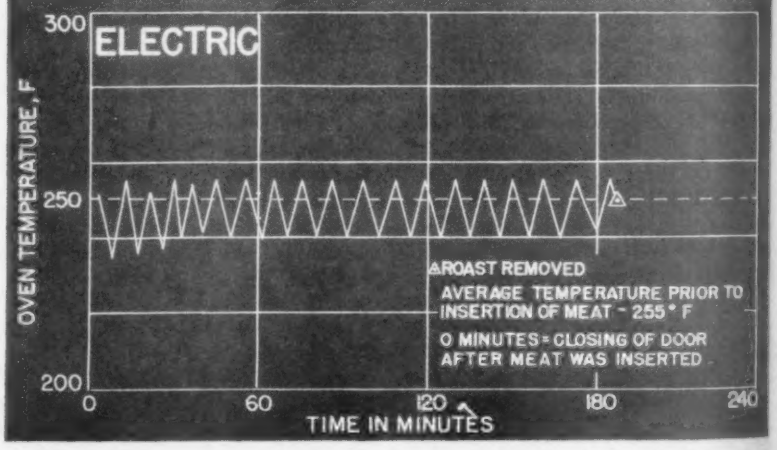
Conduct meat shrinkage tests

Under the sponsorship of the Committee on Comparison of Competitive Services, meat shrinkage experiments were conducted at the A. G. A. Laboratories at oven temperatures of 250 F and 325 F with "good" grade standing rib roasts of beef. Each roast weighed approximately five pounds and contained two ribs. Initial internal temperature of all roasts was 41 F. Roast pans measured 13 inches by 9 inches, and were tin plated. Prior to these experiments, the oven of each range was calibrated for temperature adjustment by employing five parallel connected thermocouples in the central horizontal plane of the oven. The thermocouples were attached to one of the oven racks and were located so that one thermocouple was in the center of the rack and the other four were equally spaced between the center and corners of the oven on the diagonals of a horizontal plane through the oven.

Oven temperatures were also measured during roasting operations by means of the same thermocouples. In order to allow for placement of meat in the oven, the rack containing the thermocouples was placed on supports near the oven top and the thermocouple junctions positioned so that they were in the approximate center of the oven.

Two paired roasts were used for each series of tests, one in each oven. Before roasts were inserted, the ovens were operated for about one hour to assure an equilibrium temperature condition. Meat was then placed in the ovens so that the





Oven temperature readings are charted by solid lines, in relationship to the 250 F thermostat setting shown by dotted lines. Note the difference between snap (electric) and throttling (gas) thermostats

TABLE 1

DESCRIPTION OF GAS AND ELECTRIC RANGE OVENS EMPLOYED IN MEAT SHRINKAGE TESTS

OVEN	TYPE OF RANGE: ELECTRIC	GAS
SIZE, CU. FT.	3.10*	2.68
RACK AREA AVAILABLE		
NO. OF RACKS	2	2
SIZE OF EACH, IN.	15¾ x 17¾	16⅞ x 17¼
NOMINAL RATING	2,000 watts (bottom unit) 2,700/300 watts (top unit)†	23,000 Btu/hr.

* Includes space occupied by top and bottom oven units.
† In operation at 2,700 watts during broiling operations and oven preheat period, at 300 watts during baking operations.

TABLE 2

MEAT SHRINKAGE OCCURRING IN DOMESTIC GAS AND ELECTRIC OVENS WITH THERMOSTAT SETTING OF 325 F*

RANGE	INITIAL WEIGHT OF MEAT, LBS.	PER CENT SHRINKAGE: AS DRIPPINGS IN OVEN	AS DRIPPINGS OUTSIDE OVEN	AS EVAPORATION IN OVEN	AS EVAPORATION OUTSIDE OVEN	TOTAL PER CENT SHRINKAGE
GAS	4.87	3.38	0.62	11.30	1.23	16.53
ELECTRIC	4.83	4.76	0.62	10.35	1.55	17.28

* Meat cooked to internal temperature of 140 F.

TABLE 3

MEAT SHRINKAGE OCCURRING IN DOMESTIC GAS AND ELECTRIC OVENS WITH THERMOSTAT SETTING OF 250 F*

RANGE	INITIAL WEIGHT OF MEAT, LBS.	PER CENT SHRINKAGE: AS DRIPPINGS IN OVEN	AS DRIPPINGS OUTSIDE OVEN	AS EVAPORATION IN OVEN	AS EVAPORATION OUTSIDE OVEN	TOTAL PER CENT SHRINKAGE
GAS	4.96	1.61	0.20	6.85	0.40	9.06
ELECTRIC	4.96	1.41	0.20	5.64	0.81	8.06

* Meat cooked to internal temperature of 140 F.

distance from the top of the roast to the top of the gas oven was 10 inches, and the distance from the top of the roast to the top element in the electric oven was 10 inches. Roasts were removed from the ovens when they had attained an internal temperature of 140 F. General procedures for determining shrinkage during the roasting process are those suggested by the National Live Stock and Meat Board in "Meat and Meat Cookery." For determining internal temperature of meat during roasting, a single iron-constantan thermocouple was employed for each roast. The portion of the thermocouple wires which was in the meat was shielded with porcelain tubing.

One gas and one electric domestic range were selected for this investigation. These ranges were considered to be representative of medium price ranges currently available. A brief description of the ovens in these ranges is given in Table 1.

The electric oven was equipped with two open coil heating units, one in the top of the oven compartment, the other in the bottom. The bottom unit was in operation at full rate during roasting operations, while the top unit was on at a reduced rate. The range was connected to a three-wire, 230-volt, single-phase line.

Shrinkage which occurred with standing rib roasts of beef when they were cooked to an internal temperature of 140 F in gas and electric ovens with thermostat settings of 325 F proved to be equal as shown in Table 2, the difference observed being only 0.75 of one percent. Variations between the two roasts in amount of shrinkage occurring as drippings or evaporation were not as marked as they were in roasts cooked at an oven temperature of 250 F. The roast from the gas oven showed a slightly higher evaporation loss in the oven, but the difference was relatively small. However, the roast from the gas oven showed a considerably smaller dripping loss in the oven than did the roast in the electric oven, whereas at 250 F the roast from the gas oven showed a slightly greater dripping loss in the oven. In both series of tests, the roasts from the electric oven reached a higher maximum temperature after removal from the oven and had a greater evaporation loss outside the oven than did roasts from the gas oven. In the test conducted at 325 F, the internal temperature of the roast from the electric oven increased to 147 F outside the oven while the temperature of the roast from the gas oven increased to 145 F. Aside from these differences in dripping and evaporation losses, the roasts were quite similar in appearance.

The electric oven attained an equilibrium temperature of 328 F prior to the roasting period. When the door of the oven was opened to insert the roast, oven temperature decreased to 290 F. After the door was closed, temperature increased to 315 F within three minutes and then decreased to 295 F. The oven then operated at an approximate average temperature of 307 F until 50 minutes of the roasting period had elapsed. From this point on, until the roast was removed, temperature cycled between 315 F and 305 F (average 310 F). Thus, although neither the gas nor electric oven recovered to 325 F after roasts were inserted, they both attained approximately the same equilibrium temperature during the latter part of the roasting period.

As in the case of meat cooked at an oven temperature of 250 F, roasting periods at 325 F were approximately the same. The roast in the gas oven required a total of 2.22 hours to reach an internal temperature of 140 F, and the roast in the electric oven required 2.29 hours. Expressing this on the basis of minutes per pound, the roast in the gas oven required 27.4 minutes; that in the electric oven, 28.4 minutes.

The amounts of shrinkage which occurred when two standing rib roasts of beef were cooked to an internal temperature of 140 F in a gas and an electric oven with thermostat settings of 250 F are shown in Table 3. It can be seen from

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By CHARLES A. KOOKE

Asst. Supt., gas and steam distribution
Consolidated Gas Electric Light & Power Co. of Baltimore

and WILMER H. SCHULZE

Director, sanitary section
Baltimore City Health Department

Cooperative action by the local utility, municipal agencies, the local associations of master plumbers and of gas appliance dealers, with the technical aid of the American Gas Association and of the U. S. Bureau of Standards, has given Baltimore a model gas accident prevention program.

Several fatal asphyxiations from carbon monoxide in Baltimore in the winter of 1922-23 prompted an investigation by the City Health Department. Some of the cases associated with the production of carbon monoxide were found to be caused by improperly designed gas appliances. Assistance in this study was requested by the City Health Department and readily given by the U. S. Bureau of Mines, the U. S. Bureau of Standards, the U. S. Public Health Service and the Consolidated Gas Electric Light & Power Co. of Baltimore. Arrangements were made by the Health Department so that the utility's gas service department and the Baltimore Police Department notified the Health Department of *all* cases of asphyxiation connected with the use of city gas in order that investigations on the scene could be made promptly. Suicides were not investigated.

As a result of this carefully planned study it was found that a significant number of cases of asphyxiation were caused by the use of improperly designed gas appliances. It became evident that there was need for legislation to forestall this type of accident. A committee of interested parties, including representatives of the City Health Department and the gas and electric company was appointed to draft an ordinance. In order to protect the health and safety of the citizens of Baltimore an ordinance was drawn to confine the sale and installation of all domestic gas tubing, appliances and appurtenances to those meeting the requirements of the City Health Department.

Set safety standards

On July 7, 1925 Ordinance No. 436 known as the "Gas Appliance Ordinance" was approved by the mayor and City Council of Baltimore. This ordinance, designed to control the sale and installation of all types of domestic gas appliances, appurtenances and gas tubing, was the first of its kind to be adopted in the United States. It contained three principal provisions—first, it required the approval by and registration with the Health Department of all gas appliances; second, it provided for the examination and registration of persons engaged in the trade of gas fitting; third, it established a procedure for the licensing of all dealers in domestic gas appliances. The ordinance also provided for an advisory body to the commissioner of health, known as the Gas Reference Committee. This committee was composed of a representative from each of the following organizations: The Public Service Commission of Maryland; the Inspector of Buildings of Baltimore City; the Consolidated Gas Electric Light & Power Co. of Baltimore; the Master Plumbers Association; the Retail Gas Appliance Dealers Association of Baltimore; and the American Gas Association. A representative from the U. S. Bureau of Standards was subsequently added to this committee. With the guidance and advice of this committee, requirements covering all types of domestic gas fired equipment and gas tubing were prepared and adopted.

Just prior to this, on June 1, 1925, the American Gas Association established a central gas appliance testing laboratory in Cleveland, Ohio. Without doubt, the establishment of this laboratory has had a nation-wide influence on the production of safe gas burning appliances with a consequent beneficial effect not only on the general health of the public utilizing gas appliances, but on others as well.

Because of the long continued mutual interest and close working relationship between the City Health Department and the local utility, beginning with 1922-23, together with the interchange of infor-

Abridged version of a paper presented before the Governor's Conference on Safety and Health, Baltimore, May 9, 1952.

prevent gas accidents, representatives from all interested groups thorough study of the problem. The city ordinance that resulted from their findings cal utility have become a model accident prevention program

mation and frequent joint investigations in connection with accidental poisonings by carbon monoxide, a great deal has been accomplished in the prevention and elimination of potential hazards which might otherwise have arisen with the use of gas in Baltimore City.

Examples of hazards that have been encountered consist of obstacles placed over the vents of water heaters, range ovens, and space heaters, baffles placed in water heaters where impingement of the flame results, solid tops installed on ranges designed for open grates, and other dangerous types of gas devices. These devices, purported to reduce gas bills, were frequently sold on a house to house basis by high pressure salesmen. Generally, servicemen of the gas and electric company are the first to be aware of the sale of such dangerous devices. The company thereupon immediately advises the Health Department of their installation and use. The Health Department with the cooperation of the Police Department takes immediate steps to stop the sale and distribution of these dangerous devices and to warn the public against their use.

Strict enforcement of the gas appliance ordinance together with the cooperative relationship between the Health Department and the gas and electric company has without a doubt been instrumental in reducing the number and severity of accidents caused by carbon monoxide from unsafe practices in the usage of city gas. However, constant vigilance is required on the part of both parties to guard against new hazards that may be introduced from time to time by outsiders.

For example, during the last war when the shortage of materials was a severe problem, two war emergency models of gas water heaters were found to be of hazardous design. A joint investigation was made promptly by the local gas utility company and the Health Department with the result that steps were taken to prevent further sale and installation. Investigation revealed that over 575 of these heaters were in use by the people of Baltimore. With the cooperation of local distributors and the manufacturer of the heaters, all were replaced with new, safe heaters, and those removed were sent back to the manufacturer.

Stopped unsafe practice

Again, because of the difficulty in obtaining gas pipe during the war, a new so-called semi-rigid pipe was used by some installers to connect certain types of gas appliances. As a result, there were several accidents, fortunately not fatal, due to leakage of unburned gas from these connectors. In one instance the gas caught fire. Promptly after the gas and electric company learned of this new hazard they advised the Health Department. Subsequently the commissioner of health and the building inspection engineer, after investigating the potential danger involved, agreed that the sale and installation of this semi-rigid pipe should be prohibited in Baltimore City. The manufacturer and distributor were notified that the use of such connectors was in violation of city ordinances and that their sale must be discontinued at once. Gas appliance dealers and registered gas fitters were also told that the sale or installation of such semi-rigid connectors in Baltimore would be in violation of these ordinances.

The Consolidated Gas Electric Light and Power Co. of Baltimore and the City Health Department have been most conscious of their responsibility for the health and safety of the public. Both agencies are interested in seeing that gas appliances are properly constructed and that installations are made in a safe and satisfactory manner. In addition, representatives of the utility company actively participate in the drafting of approval requirements and installation standards under the sponsorship of the American Gas Association. The company encourages its customers to ask for service when odors of gas are noticed or appliances need adjustment. It uses its gas bills and at times the public press as means to carry such messages to customers, particularly during winter months when houses are closed and ventilation by fresh outdoor air is at a minimum. Prompt attention is given to calls reporting leaks. The Health Department has likewise kept the public informed through the public press and by special announcements concerning matters affecting the public safety, particularly with reference to the hazards that may result from adjustments of or tampering with gas appliances by incompetent or unauthorized persons. In addition, the City

Health Department has kept other local health authorities informed of situations affecting the public health and safety.

The result of this close cooperation between the Health Department and the utility has been a gradual but steady decrease in the rate of occurrence of fatalities from gas or the products of incomplete combustion of gas. During the same period there has been a tremendous increase in population, accompanied by a still larger increase in the use of gas appliances by the people of Baltimore. There was a sharp decrease in fatalities during the year 1950 when the change from manufactured to natural gas distribution occurred.

The following excerpt from the 1950 annual report of the Baltimore City Health Department is of particular interest:

"With the absence of carbon monoxide in natural gas, a significant public health advance was made in protecting people against exposure to unburned gas when the use of manufactured gas was abandoned in Baltimore. The transition period began on May 1, 1950 and required four months for completion. That a major reduction in the number of asphyxiations should occur is appreciated when it can be recalled that manufactured gas averaged about 12 percent carbon monoxide and at times approached 20 percent. Although exposure to unburned natural gas is practically devoid of health risks, on occasions when there is an excessive demand, oil gas containing carbon monoxide is added to the gas supply. Even with this addition the concentration of carbon monoxide in the unburned mixture is unlikely to exceed one percent." The report goes on to point out that the formation of carbon monoxide from incomplete combustion can occur with the use of either natural or manufactured gas but that there should be a marked decrease in the number of gas cases with the use of natural gas. That this prediction was accurate is borne out by the fact that only two fatalities occurred from the use of gas during 1951 on the entire distribution system, which includes large areas outside of Baltimore City. This marked decline in fatalities by gas occurred while the number of domestic customers rose 57.85 percent, from 210,512 at the end of 1930 to 332,294 at the end of 1951.

The conversion to natural gas in 1950 required that a change be made in the gas appliance ordinance, which by its wording was restricted to the use of manufactured gas. A new Ordinance, No. 1154, which includes all combustible city gases, was prepared, passed by the City Council, and approved by Mayor D'Alesandro on May 9, 1950. The original Baltimore ordinance which had been used as a model by many communities throughout the country also served as the model for the new ordinance. The new ordinance transferred the responsibility for enforcement from the City Health Department to the City Bureau of Buildings-Inspection. The ordinance provides for a Gas Appliance Board consisting of the director of public works, the commissioner of health, the building inspection engineer, a representative of Consolidated Gas Electric Light and Power Co. of Baltimore and a master plumber who must also be a registered gas fitter of Baltimore City.

The use of properly designed, properly constructed, properly installed and properly maintained gas burning appliances and the effective venting of such equipment as may be required are the chief preventive measures against carbon monoxide poisonings from the use of gas appliances in the home and in industry. Under the new ordinance, the Health Department and the utility are now joined by the Bureau of Building-Inspection to accomplish this end.

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Personnel Committee surveys graduate shortage

Results of a survey on the effect of the decreasing supply of college graduates to serve the gas industry will be made available shortly, it was reported at the American Gas Association Personnel Conference, in Chicago, on May 23. The survey is being made of companies which employ about 44 percent of the total number of industry workers, so that it should reflect a fair indication of industry conditions.

J. J. Solon of The Peoples Gas Light and Coke Co., Chicago, chairman of the A.G.A. Great Lakes Personnel Conference, the host group, also was chairman of this joint meeting which included the A.G.A. Personnel Committee and the A.G.A. Midwest Personnel Conference. Thirty-six personnel executives attended.

Dwight S. Sargent of Consolidated Edison Co. of New York, Inc., chairman of the A.G.A. Personnel Committee said top executives had expressed concern over the shortage of college graduates for the gas industry, particularly in engineering departments. While Mr. Sargent believes the problem can be helped by companies individually, the Committee hopes to promote industry-wide action after its survey is completed.

Attention was called by Mr. Sargent to a recent New York State Public Service Commission ruling that allows costs of any reasonable pension plan to be charged to operation expenses. He added that if a plan is not established a company can be penalized.

Favorable results of a group's supervision can be determined readily, said David G. Moore of the Employee Attitude Research Group of the Industrial Relations Center, University of Chicago, where he is an assistant professor of social sciences. He said these tests, developed by Science Research Associates, also can be used to learn employee attitudes toward many subjects. The tests comprise a series of questions.

Part of the meeting included round-table reports and discussion of company developments, including contract negotiations. An interim progress report of the A.G.A. Midwest Personnel Conference was given by its chairman, H. R. Shepherd of the Cities Service Gas Co., Wichita, Kansas.

All committee members were invited to attend the Personnel Session sponsored by the committee at the 1952 A.G.A. Convention in Atlantic City the week of October 27. A subcommittee headed by E. F. Hubbard of The Philadelphia Gas Works Co., is developing the session program designed to interest executives concerned with operations as well as employee relations.

Research spells leadership

By HUGH H. CUTHRELL

President
The Brooklyn Union Gas Co.
Brooklyn, New York

Most natural gas supply contracts are for twenty years. Thus automatically natural gas distributing companies must project their planning a generation ahead. While it is quite human to regard twenty years as a long time, it does not seem long when we recall the breath-taking changes which have occurred in the last twenty years.

As the gas industry increases its dependence on natural gas, it increases its responsibility to its investors, consumers and employees to think and plan beyond the twenty-year periods of its supply contracts.

Natural gas, despite world upheaval and change, like all other commodities is still subject to the law of supply and demand. As its use expands, it is inevitable that its price will increase unless the ratio of supply to demand becomes greater. For years the American gas industry through its Natural Gas Reserves Committee has issued an authoritative appraisal of supply. Oddly enough, no such appraisal has been made of the prospective demand for natural gas. The industry, through its A. G. A. committees, is now taking steps to produce such a forecast. When this is done, we as an industry will be much better able to determine where we are going instead of where we are. But even if the two-sided picture proves favorable, the fact remains that there is much else we should be doing.

The fact that natural gas can be transported two thousand miles through a $250 million pipeline system and purchased by the distributing utility at cost lower that it can make gas from raw materials is rather startling. There are qualified gas production authorities, however, who feel that new processes are within practical realization whereby gas can be produced from coal or oil at a cost equal to or lower than pipeline gas. But these prospects are not likely to become realities unless some real effort is made to get the answers. This means a comprehensive and expanded research program.

At the present time, with total gas industry revenues of around $2½ billion, we are spending about $600,000 annually under the industry PAR program on research. This is at the rate of 2½ cents for each $100 of revenue. This expenditure is wholly inadequate in view of the circumstances facing the industry. Certain basic reasons emphasize the need of a vastly accelerated research program as part of the gas industry's expanded planning.

We face the prospect of losing ground to the technical progress of our competition. Our major competition comes from the oil and electric industries. Both of these formidable adversaries have expanded since World War II at an even greater degree than the gas industry. Both are far ahead of us in research.

By its nature, the oil industry has been forced to spend prodigiously on research. Competition is so severe within the industry that individual companies have had to maintain large technical staffs to develop constantly improving operating efficiencies and petroleum products. Most recent estimates indicate research expenditures by the petrolum industry of 60 cents per $100 of revenue, a ratio some 24 times as high as the gas industry expenditures. Over $100 million is spent for research annually by the petroleum industry. In the five years 1946 through 1950, the petroleum industry has expanded its investment over $12 billion, *an amount greater than the total existing investment in the gas industry.* This has been done almost entirely with internal funds so that the new plant is in a sense fully paid for. A tremendous demand for petroleum products has kept the price of oil at a relatively high level. But—and this is an important qualification—if the demand should slack off, the oil industry can afford to take a substantial cut in fuel oil prices without seriously disturbing its financial structure.

The electric utility industry, in addition to its own research, draws tremendous support from the electric equipment industry, headed by those two giants, General Electric and Westinghouse. According to a recent survey by the National Industrial Conference Board, the electrical appliance industry spends in the neighborhood of $1.60 per $100 of revenue on research.

The electric utilities are expanding plant facilities at a tremendous rate. Unlike the oil companies, almost all of this expansion has been met by the sale of securities. The electric utilities must earn a return on this investment to service the new securities issued. When the present abnormal industrial demands ease off, it will be necessary to obtain revenues from other sources. The most likely field is the residential market. Even now the electric industry is making rapid strides in elec-

Abridged version of an address before the 45th annual convention of the Canadian Gas Association, Chateau Frontenac, Quebec, June 9-12, 1952.

tric cooking. Promotional efforts by electric companies are increasing, and some companies are making a serious attempt to obtain the water heating load and even the home heating load.

With its increased dependency on natural gas, there is an inevitable tendency for the manufactured gas industry to reduce its technical production staff. While laboratory research has traditionally and rightfully been carried on as a joint industry effort, the applied research has grown out of the work of the men actually responsible for meeting the daily sendouts. With the advent of natural gas, many of these highly trained technical men are being shifted to other phases of the business. As an industry, we are losing something intangible but very valuable in this change. To repeat an old cliché, "Necessity is the mother of invention." In recent years the production staff in The Brooklyn Union Gas Co., working under terrific pressure, has time and again come up with unusual and workable ideas which have made production facilities perform far beyond their rated capabilities. This was not mere coincidence but rather the result of instinctive application of years of production background to new problems. The mental capabilities of these men will not decline, but it is inevitable that operating know-how will get rusty in the absence of the unrelenting pressure of coping with sendout demands from day to day.

More research needed

Obviously, there is need for a greatly enlarged industry effort in research, both with respect to operation and also utilization. It is difficult to appraise the amount that any business or industry should spend on research. However, it is fairly clear at this time that certain logical fields of research are awaiting development by the gas industry. A few of these fields seem of outstanding importance:

1. *Natural gas exploration techniques.* Whatever progress has been made in improving the methods of finding new gas and oil reserves must go for the most part to the petroleum geologists of the oil industry. Some of the major natural gas producing companies have contributed to this specialized phase of geology, but the gas industry has done very little. Tremendous strides have been made in recent years, but gas and oil exploration still remains a rather chancey business. Certainly, the gas industry with its future increasingly dependent upon expanding gas reserves has a very real interest in underground geology. Advances in the ability to evaluate accurately the nature of underground structures are related not only to locating new gas fields but also geologic formations suitable for the storage of natural gas. Here is a field of research where we can join hands with the petroleum industry to mutual advantage.

2. *Gas transmission techniques.* With the development of long distance natural gas pipelines, important improvements have been made in design and operation of the lines. The fact remains, however, that this is a field of research which can pay rich dividends to the industry. We hear so much these days about rising field prices of natural gas that we overlook the much more important cost factors of getting the gas to market. In the case of Brooklyn Union, for example, the field cost of gas represents less than 25 percent of the total cost of gas. There is a possibility that we are requiring too much of a safety margin in the design specifications of pipelines. Maybe wall thicknesses of pipe are excessive; possibly new metallurgical developments could produce thin-walled pipe capable of carrying higher pressures than we now use. The gas turbine opens entrancing prospects for reducing compression costs. As an industry, we have done some things in this field; but most of the developments have come from the equipment manufacturers and the pipeline installers. It is time we did something substantial ourselves perhaps in cooperation with the pipe fabricators and the compressor manufacturers. There is nothing in prospect to indicate that the basic materials of pipelines will become cheaper. Thus, it behooves the gas industry to do something to assure that the money invested in pipelines is being most efficiently utilized.

3. *Production research.* The more obvious reasons for an enlarged development program in gas production were given previously. The A. G. A. research program has already accomplished much in oil gas research. Our long-term interest lies in the possibilities of developing an economical pipeline gas from coal. The coal industry has a definite stake in this, and it has done considerable development work in this direction. Here, surely, is a field of research in which two important industries have an unusual mutuality of interest. Does it not seem logical that coal and gas men should join hands with the U. S. Bureau of Mines in a full-fledged research effort which means so much to both?

4. *Gas meter.* There has been little change in the gas meter in the last fifty years. The gas industry has with rightful pride claimed an unusual degree of accuracy for its meter. Without commenting on the unmistakably mid-Victorian appearance of the meter, the fact remains that the purchase prices and repair costs are increasing rapidly. Some worthwhile results could come out of a research project which developed a cheaper, simpler, more rugged and better looking gas meter.

5. *The heat pump.* The gas industry has shown a singular lack of interest in the heat pump. We have taken the position of asking why get serious over a heating method which we can back off the boards on an operating cost comparison in most areas. I feel this is a foolish attitude to adopt. I can recall similar attitudes with respect to electric cooking and water heating which, despite complacent logic, have taken hold strongly even in established natural gas areas. Every technical man knows that the principle of the heat pump is adaptable to any fuel that will drive a pump. As a matter of fact, a gas-driven heat pump has some definite operating advantages over the electric heat pump. Some work on gas heat pumps has been done by engine manufacturers. I feel this work should be expanded and an effort made at least to duplicate the research activity of the electric industry.

6. *A basic study of energy requirements.* The previously mentioned areas for research have dealt with the development of physical techniques, resources, or applications. But, we in the gas industry cannot afford to stop our research here. The gas industry must constantly bear in mind its role as a source and method of distribution of energy. And, further, we must determine and establish its rightful role from the standpoint of national, even continental, welfare. As an industry we should take steps to keep abreast of the total energy requirements of our constantly increasing standard of living and the relationship of gas energy. This implies accurate and continuing estimates of the supply and demand for natural gas, improvement of our fore-

(Continued on page 54)

Inaugurate gas income reports

Quarterly composite income statements for the entire gas distribution and pipeline industry have been instituted by the A. G. A. Bureau of Statistics. Initial report is for the twelve month period ending March 31, 1952. This new service has been incorporated in the *Quarterly Report of Gas Sales,* which includes the previously reported gas utility customer, sales and revenue statistics.

The financial data are being presented for the twelve month periods ending with the current quarter. They include the most essential items of operating revenues, operating expenses and taxes, and income which are of greatest current interest. For those groups which have use for somewhat greater amount of detail, it is available on a calendar year basis in the Association's annual statistical yearbook, *Gas Facts,* where industrywide income statements and balance sheets are now being shown.

This new feature has been inaugurated in response to numerous requests from the business and financial community, as well as from within the gas industry itself. The extent of widespread interest was verified at a recent conference with representative security analysts and personnel of some of the larger insurance companies. This group also offered cogent suggestions regarding the format and content of the then projected financial statistics, and most of these are reflected in this new service.

Initially the composite gas industry income statement for the twelve month period ending with the last quarter will be shown. As soon as feasible, it is expected also to show comparisons with the like twelve months period of the prior year. It is not contemplated to show the most recent three months income statement. With the increasing use of gas for heating, such quarterly financial results are becoming ever more subject to the vagaries of climatic variations. Inability to measure, for the industry as a whole, the effect on earnings of such weather factors would severely limit the analytical uses to which three-month financial data could be placed. On the other hand, the employment of twelve-month data eliminates non-comparability between successive quarters, minimizes the uncontrollable effect of climate and, most importantly, permits the presentation of annual data four times a year thereby facilitating frequent examination of trends

TOTAL GAS INDUSTRY INCOME STATEMENT

(Millions)

	1950	1951	Twelve Months Ending March 31, 1952
Total Operating Revenues	$2,634	$3,047	$3,130
Operating Expenses-Operation	1,596	1,828	1,860
Operating Expenses-Maintenance	137	146	170
Operating Expenses-Total	1,733	1,974	2,030
Depreciation, Retirements, Depletion, Amortization etc.	181	214	220
Federal Income & Excess Profits Taxes	177	256	260
All Other Taxes	163	177	200
Total Taxes	340	433	460
Total Operating Revenue Deductions	2,254	2,621	2,710
Net Operating Revenues	380	426	420
Other Income	36	31	30
Gross Income	416	457	450
Interest on Long-Term Debt	94	113	120
Other Income Deductions	(4)	4	[a]
Total Income Deductions	90	117	120
Net Income	326	340	330

a. Less than 5 million.

in the expense and earnings picture of the industry.

The accompanying data represent the only available interim financial data representative of the entire gas utility and pipeline industry. The Federal Power Commission issues composite monthly income statements and balance sheets, but these refer only to that part of the industry subject to the commission's jurisdiction under the Natural Gas Act. This includes all interstate natural gas pipelines and a few of the larger distributing companies who may be incidentally engaged in the interstate transmission of natural gas for resale. Apparently no adjustments are made in the comparative years' data for changes in jurisdictional status so that the respective statistics may not always refer to the same group of companies, thus limiting the usefulness of year-to-year analyses.

Gross up; net static

The actual data for the twelve months ending March 31, 1952 as well as for calendar 1950 and 1951 are presented in the accompanying table. Although total revenues have gained 18.8 percent since the year ending December 31, 1950, net income has remained virtually unchanged, with revenues for the most recent annual period being slightly lower than in 1951. This slight decline is attributable to unseasonably mild weather during the first three months of this year and, particularly in view of the estimating procedures necessary and described previously, no particular significance should be attached to it.

Increases in revenues have been absorbed principally by higher taxes and advancing operating costs. The latter category (including labor, materials and supplies, and purchased gas) is now 17.1 percent higher than in the period ending fifteen months earlier, and currently accounts for 64.9 percent of total operating revenues. Taxes as a group are now 35.3 percent higher, with the component representing federal income and excess profits taxes showing an increase of 46.9 percent.

Total taxes in the year ending March 31, 1952 were 460 million, or 39.4 percent higher than total net income. As a result of the industry's continued expansion program during 1951 and 1952, depreciation accruals and interest on long-term debt both increased significantly, the former being up 21.5 percent and the latter 27.7 percent.

The financial statistics compiled by the A. G. A. and now included in the *Quarterly Report* are more comprehensive in that they refer to the operations of all gas utilities and pipeline companies. They are developed from reports of 150 companies, which represent between 75 and 80 percent of both total revenues from sales to consumers and total revenues from sales for resale. With such a high proportion of industry revenues accounted for by the cooperating companies there is no doubt that the final expanded industry results are not significantly different than would be the case if reports could be obtained for each individual gas company, which is an administratively impossible and unnecessary refinement.

An additional point of difference between the A. G. A. and FPC reports concerns the handling of "below the line" items for combination gas and electric companies. Most combination companies derive the majority of their revenues from electric operations, and it may therefore be assumed that the majority of their fixed charges and other income deductions are attributable to electric operations, particularly since the ratio of plant required per dollar of revenue is greater for electric operations than for gas distribution. Accordingly any complete attribution of all "below the line" items for such combination companies to the gas department will seriously understate the net income derived from such gas operations, while complete omission of the "below the line" items would create an equally unjustified opposite inference.

The FPC resolves the dilemma by including in their monthly natural gas tabulations, the experience of only those combination utilities deriving 50 percent or more of utility operating income from natural gas. For these companies all income deductions are in effect attributed to gas operations. Actually there are very few combination utilities which fall in this category, so that the FPC monthly statistics refer almost entirely to the straight natural gas companies subject to its jurisdiction.

If the above procedure were adopted in A. G. A. statistics, it would result in the exclusion from gas industry income statements of "below the line" items attributable to the gas departments of the majority of combination utilities; it is estimated that these combination companies account for nearly 25 percent of the total revenues of the gas industry.

To avoid this, the A. G. A. has segregated "below the line" items for all combination companies between gas and other operations based on the relative amount of gas plant and other utility plant. While such an arbitrary procedure would undoubtedly be unwarranted in the case of individual utilities, any significant errors thereby introduced will undoubtedly be compensating in direction for the industry as a whole and will tend to cancel each other. It is recognized that the procedure cannot be precise, but is superior to any method which would fail to include the financial results of one quarter of the industry. It appears to be the most rational simple procedure since a substantial proportion of income deductions are attributable to interest payments, which in turn are closely related to the respective utility plant accounts.

The industry statistics in the accompanying table have not been "consolidated" to eliminate revenues from intercompany sales. Data actually reported by each utility have merely been summated to develop industry composites; the inclusion of revenues from sales for resale means that total revenues reported in the financial statement will substantially exceed revenues from sales to consumers as regularly published by the A. G. A. in its quarterly report. The preparation of consolidated statements would present considerable difficulty, and would be a refinement not ordinarily introduced into composite industry financial data.

The presentation of interim financial data necessarily involves some dependence upon unaudited statements. While year-end adjustments might be important in modifying the data for certain individual gas companies, it seems reasonably safe to assume that the effect of such changes on the composite statement will be minor. This circumstance, therefore, does not limit the validity of the information in any important respect.

The A. G. A. *Quarterly Bulletin of Utility Gas Sales*, which will contain these financial statistics, is available approximately two months after the close of the quarter to which the statistics relate. The bulletin is available upon request to the Bureau of Statistics, American Gas Association, 420 Lexington Avenue, New York 17, New York.

Worker output will be greater if employees understand job standards and are told how they measure up

Worker conferences up output

Program at Washington Gas Light Company

By ARTHUR R. LANEY, Jr.

Personnel Psychologist
Washington Gas Light Company
Washington, D. C.

• The Washington Gas Light Company has been using progress reports as part of its personnel program for the past seven and a half years. This plan has proved so successful that it has attracted wide interest on the part of other organizations, a number of which have adopted its major features.

So many requests have been received for further information that the company has prepared a 22-page manual, covering:

- Why Report Employee Progress?
- How the Plan Was Developed
- How the Plan Operates
  - When progress reports are required, and on whom;
    - Employees in line for automatic pay increases;
    - Other Employees;
    - Those transferred to a different job or supervisor
  - Who Makes Out the Progress Reports, and How
    - Filling Out the Form
    - Planning the Interview
  - Discussing Progress Reports with Employees
  - What to Do after the Interview

The American Gas Association Personnel Committee believes that this plan is worth consideration by other member companies interested in improving employee relations and productivity. A limited number of copies of the manual are now available at A. G. A. headquarters. If you would like a copy for your company, write Kurwin R. Boyes, secretary.

Every employee likes to know how he is getting along on his job. A worker cannot be expected to measure up to his supervisor's expectations unless he knows what those expectations are, nor to improve himself unless he knows just where improvement is needed.

One of a supervisor's fundamental duties, therefore, is to supply this information to each of his employees—clearly, honestly, and in such a way that it will be helpful. Experience shows that this is done most effectively by a combination of two methods:

(1) day-to-day constructive criticism and praise, as the circumstances warrant; and
(2) periodic over-all summaries of actual job performance as compared to supervisory expectations.

The kind of supervisory leadership which progress reporting represents is mutually advantageous. The supervisor's job is made easier if his employees are constantly trying to improve. By taking sufficient added interest in each employee to review his work with him regularly, the supervisor gets to know each employee better. Employee reactions which are not normally obtained in the course of day-to-day job relations, frequently arise in the course of a well-conducted progress interview. The result is improved understanding and better cooperation on the job.

Determining what you expect of the employee is basic to good progress reporting. The combination of standards for the job (determining what you would expect of any person in that job), plus consideration of the employee as an individual (that is, in terms of his personal background—his past experience, education, job training, age, health, family status, job aptitudes, and the other traits which make every human being different) equals standards for the employee (or what you feel is reasonable to expect of him).

For example, if an employee has worked only six months on a job that normally requires two years to learn, chances are his job knowledge is "poor" when compared to that of your more experienced workers. However, when compared to what is reasonable to expect of him, it may be "good—considering his limited experience on the job."

Unless you feel that the employee is already doing the best he can and that he lacks ability to make further progress, be sure to mention some improvement suggestions relative to one or more of the three items with which a progress report is usually concerned. These are: knowledge of job; performance of work; and, personal qualities. Remember that the purpose of progress reporting is to help the employee to improve.

Constructive criticism is no reflection on the employee. In fact, lack of constructive criticism is more likely to be a reflection on his supervisor's lack of leadership ability.

When criticism is constructive; i.e., when it informs the employee of something which he can reasonably be expected to do if he desires to do a better job or to qualify for advancement, it shows that the supervisor has the ability to spot training needs and that he is interested in developing his employees.

Although constructive criticism is of-

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Philadelphia sells builders solid for gas

Aggressive sales promotion and advertising by The Philadelphia Gas Works Co. has resulted in the overwhelming acceptance of gas for cooking in the city's new homes and apartment houses.

A recent survey shows that 97.5 percent of all new homes built in Philadelphia during the last five years have been equipped with gas ranges, as well as automatic gas house heaters and water heaters. In addition, *all* of Philadelphia's newest and finest apartment houses are completely equipped with modern gas ranges.

This remarkable record in the Quaker City reflects the forward-thinking policies of an alert utility management. Under the guidance of Frank H. Trembly, Jr., vice-president in charge of sales, this gas utility's builder's division is actively engaged in keeping builders and allied professions pre-sold on the advantages of gas for essential household services.

One of the newest apartments to go all-gas for cooking is the ultra-modern, air-conditioned Parkway House, at 22nd Street and the Benjamin Franklin Parkway, where about 300 gas ranges have been installed. Other smart new Philadelphia apartment houses completely equipped with gas ranges include: The Presidential, 768 ranges; School Lane House, 512; Park Drive Manor, 576; The Rittenhouse Claridge, 482; and The Rittenhouse Savoy, 226.

In the field of apartment modernization, too, gas cooking is gainging by leaps and bounds. The Walnut Park Plaza, 63rd and Walnut Sts., replaced electric ranges with modern gas ranges, resulting in substantial economies in operation and improved performance.

Taking advantage of this fine opportunity for competitive advertising, PGW ran a large ad featuring Walnut Park Plaza. The ad played up a letter from the apartment management stating, "we have found that the installation of your gas ranges have effected a saving in operating costs of over $2200 per year."

The letter further states that, "our tenants have been most pleased with the performance of these gas ranges, and we have received many favorable comments from them as to the greater speed and convenience in operation obtained with them."

Advertising has been the spear-head in the drive to acquaint the building trade with gas and modern gas appliances. A continuing series of 1200-line ads in metropolitan daily newspapers are used to bring each "success story" to the public's attention.

These large ads also serve to give the builder and his operation considerable public notice at the time of his formal opening. Placards and miniature replicas of the apartments have been used in PGW windows and on salesfloors, tieing in with the ads.

A direct mail campaign distributed among Philadelphia builders, architects and apartment house managers is a valuable supplementary media. Folders and letters are used to point up the selection of gas ranges by the managements of Philadelphia's leading apartments. The inference to the consumer is that she should "do as the experts do—use a modern gas range in your own home for best results."

The effects of PGW's new building program have been far-reaching on the trade itself. At the Philadelphia Home Builder's Show, for example, gas plays a predominant part in exhibits and model homes. In this year's show, gas ranges held a two-to-one edge over others exposed to public view.

"There is no telling just how much we benefit from this promotion," Mr. Trembly recently stated. "We do know, however, that it is well worthwhile. The ads create an atmosphere of modernity and popularity for gas ranges that makes them valuable additions to our regular merchandise ads."

Laxity on the part of the auditor can make it all too easy for the weak employee to "borrow" from the till

Don't tempt the embezzler

By J. C. MEYERS

Union Electric Company of Missouri
St. Louis, Missouri

The scope and responsibility of internal auditing have been so broadened in the past decade that there might be a danger of some auditors overlooking their obligation to protect their companies from raids by embezzlers. This may be regarded as but a secondary function of internal auditing, but if your company should suffer a loss of this nature you will be very embarrassed if it can be shown that the cause of the defalcation can be partly attributed to negligence in the discharge of your duties. After reviewing the case histories our committee has issued it can be stated without fear of valid contradiction that we are doing a good job of holding down embezzlement losses.

Even a casual study will reveal that the human element in any business is weak, and likely to go astray if opportunities to do so are numerous. In *Personnel Management* by Scott, Clothier, Mathewson, & Spriegal, published by McGraw-Hill and Co., there is an interesting summary of lie detector tests made by sixty Chicago banks and department stores. The banks found that 62 percent of all persons handling cash admitted thefts, while the department stores found that 85 percent of their employees admitted misappropriating money, merchandise or both

The results of these tests should make you willing, in fact eager, to re-examine your entire organization to see if you have overlooked any "natural set-ups," i.e., situations that are conducive to fraud.

This textbook develops the further fact that if employees who are to handle cash or merchandise are screened by the use of lie detectors before being hired and are told that further tests will be made from time to time, subsequent reviews show that less than 2 percent go on to steal from their employers. The knowledge of the fact that further tests are to be made is no doubt a very effective form of moral suasion which keeps the selected employees from getting into trouble.

J. C. Meyers gives the findings of an A. G. A.-EEI committee that gathers and distributes case histories to cut employee speculations

While lie detector tests are still used by the Defense Department on job applicants and employees in posts involving "absolute security," it is unlikely that the public-relations minded managements of most utilities would condone such a practice.

A study of the large mass of data on frauds and embezzlements published by the various fidelity companies revealed some further interesting facts. Most of the information was taken from "Embezzlement: Is there a hand in your till?" from *The Kiplinger Magazine* of September 1950, and from two studies of defalcations in business made by the United States Fidelity and Guaranty Company of Baltimore.

These sources indicate that embezzlement is more common than robbery and much more costly. Employee dishonesty apparently constitutes a business hazard second only to fire. Estimates of the current loss to business from "trustworthy" till tappers run as high as $600 million annually. This is quite an increase from the $200 million estimate for the years prior to the war. Apparently today's embezzlers are enjoying a field day.

There is no distinct embezzler type of employee. The picture of the average embezzler does, in fact, bear a startling likeness to the average American white-collar worker. Most embezzlers are about 34 (although the ages run from 15 to 85), married and have

Abridged version of a report of A. G. A.-E.E.I. Internal Auditing Committee, delivered before the National Conference of Electric and Gas Utility Accountants, Hotel Commodore, New York, April 7-9, 1952.

children. They are not low paid, but are in the middle income group. Many work for their employers about two or three years before they begin to rob his till. They are employed as salesmen, bookkeepers, delivery men, tellers, cashiers, pay clerks, warehousemen, branch managers, secretaries, vice-presidents, office boys, and even auditors. Dishonesty apparently is no respecter of persons. While men still predominate, percentage-wise there are now about four times as many women as were found in the prewar studies. The increase in the number of women appears to reflect the more widespread employment of women in the years of World War II and immediately thereafter and their increased importance in positions of trust.

What makes an employee become an embezzler?

Lester Pratt, a Washington, D. C., accountant who specializes in ferreting out bank embezzlers, says the crime of embezzlement is rarely premeditated. It just happens one day that the temptation is too great, and another trusted employee becomes an embezzler.

"Just until payday"

Many embezzlements start with a seemingly innocent self-authorized "payday loan." The employee merely "borrows" a bit to tide him over until payday. If replaced in time no one is the wiser. But this practice has a tendency to get out of hand so that the borrower in the end becomes an embezzler.

Loss of savings, reduction in income, accumulated or foolishly acquired debts, living beyond his means, the "other woman," excessive drinking or gambling, an ill, nagging, or extravagant wife, sick children, any or all of these plus a host of other reasons may be the direct cause of any employee becoming an embezzler.

Mr. Pratt says there are two ingredients in the crime of embezzlement. One is management's sin; the other is the embezzler's contribution. The first is temptation. If in the course of his work the employee is faced with opportunity to steal, through sloppy accounting systems, poor internal safeguards, that's one element. Add to it the second element, desire, caused by any of the reasons or extenuating circumstances mentioned above, and the stage is set for embezzlement. As auditors our prime duty is to be certain that the first element—management's sin—has been eliminated in our companies in so far as it is possible to do so.

In this connection it is interesting to note that in 91 percent of the cases covered by these studies the money or property for which the embezzlers were responsible was checked or audited at regular intervals. It appears that the auditors in question might be accused of a lack of appreciation of the fundamentals of good internal control. This is somewhat substantiated by the fact that collusion was present in only one out of every seven cases studied.

Undoubtedly many of the cases were the result of what Mr. Pratt calls poor internal safeguards—or the failure on the part of the auditor and/or systems man to devise accounting methods and procedures that provide for automatic checks on the work of the employees involved and make collusion a necessary factor in any fraudulent endeavor. The ideal system of internal check or control would preclude any fraud whatsoever except through the collusion of two or more employees.

It must be granted that there are many cases where it would be impracticable or uneconomical to set up a good system of internal control. These situations represent a challenge to the ingenuity of the auditor who under such circumstances must be clever enough to vary his work so that he effectively keeps the employees in question "off balance."

How does an embezzler go about it?

It has been said there are at least 200 types of embezzlement. Our committee's audit case histories show that the utility industry's embezzlers have not been lacking in ingenuity and could probably compile their own list of 200 or more variations. A summary of some of the more pertinent observations by those who presented these cases are important to consider:

(1) Internal auditing has a great psychological effect upon the employees subject to review and can be an excellent fraud preventative. It serves as an acceptable form of moral suasion, deterring many who might otherwise become embezzlers.

The case in consideration shows that internal auditing must be a constant force to be of any real value. The discontinuance of auditing effort over a protracted period of time allows employees to succumb to temptation. In the words of the detected embezzler, a district office manager who undoubtedly had the entire accounting operations for his area in "the palm of his hand," i.e., under his direct control: "Since you fellows have not been here for several years, I figured that you weren't coming back and therefore concluded that I could get away with this defalcation without detection."

This might be called a clear-cut case of what Mr. Pratt calls "management's sin"—the failure to protect an employee, not subject to other adequate internal controls, by having his operations reviewed by competent internal auditors.

(2) Many cases recognized the need to establish sound internal controls and indicated how this had been done. Quite a few of these cases illustrated the preventative value of auditing in the sense that the auditor can ferret out weak spots and set up necessary controls even before someone has taken advantage of the situation and gotten himself into trouble. The summation sentence of one case—no fraud had occurred, this was strictly preventative medicine—put it very nicely: "This new arrangement separates the responsibility for the handling of cash from the associated accounting therefore and the work of one person is now supplemented or completed by that of another."

(3) Many cases served to drive home forcibly the lesson that adequate methods, procedures, and controls are of little value unless they are "policed" by internal auditors. Without this follow-up the methods and procedures are soon discarded or altered and the controls no longer function properly.

How, as auditors, can we best attack the problem of frauds and embezzlements?

In the vernacular, the first thing to do is to "case the joint." Review all of the operations of your company thoroughly and methodically—looking for areas in which fraud could flourish. Certainly you bring better tools to this job than the average embezzler! Any weak spots found should be corrected, if possible, by establishing adequate internal controls.

If it is impracticable or uneconomical to set up adequate controls it is up

(Continued on page 54)

The manner in which you maintain customers' commercial cooking equipment can influence your future load

Service is your best sales tool

By GEORGE W. LEIDHOLDT

Supervisor, commercial sales
Central Indiana Gas Co.
Muncie, Indiana

The commercial cooking load in this country is tremendously big business, and, therefore, anything we can do to promote this load is exceedingly important.

In a large percentage of cases, service is just as important a buying appeal to our commercial cooking customers as is the low original cost of the equipment and the low cost of using such equipment. We boast, and rightly so, of the flexibility and controllability of gas. We say that we have a thousand different speeds as well as a perfectly controlled temperature range, but unless we are in a position to maintain our equipment, those advantages can be used by our competitors as factors leading to dissatisfaction. Our competitors are big and they are smart and they are spending important money in advertising for the sole purpose of making inroads into a field of business that rightly belongs to us.

Commercial cooking customers are motivated almost entirely by profit, and two of the big factors that influence profit are service and service expense. There is a distinction between service and service expense that is too often overlooked by the gas utility, and there is a need for both. A lack of service has all too often been responsible for dissatisfied commercial cooking customers.

Abridged version of a paper presented before the A. G. A. Sales Conference on Industrial and Commercial Gas, Cincinnati, April 16-18, 1952.

By "service" is meant treating the commercial cooking customer just as though we were a partner in his business. An old saying goes "For lack of a nail a shoe was lost; for lack of a shoe a race was lost." That service may seem as trivial as that nail, but it may be just as important.

Not long ago a call was made on a high school in one of our smaller towns in order to check on the results of a recently installed large-volume water heater. The lady in charge of the cafeteria said that they were not too happy with the results they were getting from their cooking equipment as it seems as though they were never able to obtain the same results from both ovens although they used exactly the same ingredients. A potentiometer test on the thermostats of the two ovens showed one oven was 20° too high; the other was 20° low, and as a result the cooks were constantly experiencing failures and gas was being blamed for these unsatisfactory results. One of the ladies doing the cooking had an electric range in her home and mentally compared the fine results that she was getting with her electric range with the unsatisfactory results they were obtaining in this cafeteria. They simply blamed it on gas, and that story was undoubtedly told many many times during the course of a day. In this particular case the type of fuel itself had nothing to do with the fact that the thermostats were out of calibration. With a differential of 40° in the thermostats we know that it would mean an appreciably longer cooking period for the oven with the low calibration, but we should not expect the customer to know this.

There are some service men who take the stand that temperature control within 25° is satisfactory. This might be true if the same operator was using the range every day and became accustomed to that range, but it will only lead to trouble when we take it for granted that such idealistic conditions exist in commercial establishments. Only a few minutes were required to correct the condition in this particular case yet it saved a service call and what is more important, the ladies who were operating these ranges are now getting perfect results from their ovens and are again boosters for gas.

Every one of us likes a little personal attention, and when it affects a man's pocketbook, it is doubly important. That is why this personalized attention by a well qualified commercial representative should not be overlooked. In the foregoing case no repairs were required and the equipment was adequate, but because it was out of calibration it was not giving satisfactory cooking results. Therefore, the customer was ready to make a change. Had we lost that load to competition, it would have been solely as a result of the lack of a very minor service call.

In another instance a regular call was made on a restaurateur who was comparatively new in the business and who made a complaint that while his dollar volume seemed large, he was not able to make a satisfactory profit. As so often happens, this man had never really made a study of the science of operating a restaurant. All he knew was how to prepare his food, cook it and serve it. After a little conversation, it became evident that one cause for his excess overhead was that he was attempting to carry too many

items on his menu. We worked out some new menus, reducing the items handled so that there would be less waste and less left-overs and yet giving the customer a sufficient variety to make his menus attractive. We made a real friend in this case. It cost us nothing except a little time, and again we have a booster for our business. This, again, is "service." It is rendering knowledge and help that our commercial cooking customer needs in order to make his business more profitable.

Like profit-making aid

Another type of personalized service that is appreciated by our cooking customers is to see to it that they receive literature and pamphlets such as "Cooking For Profit," "Better Broiling Means Bigger Profits" and "Fry It Deep," all of which have been made available to our industry at very low cost. Usually it is better to hand these pamphlets to the customer rather than to mail them. By doing so we have an opportunity to go over these booklets and mailing pieces with the very people who can gain some good from them. Be sure that you revise your list frequently for there are many changes in personnel in most restaurants and cafes. This type of aid is just another way of making our customer's business more profitable and having him realize as well that in a sense we are his partner.

When the services of George L. Wenzel were made available to our industry, the reaction that we obtained in our property was exceedingly favorable. It just proved how anxious our commercial customers were to obtain information and knowledge aimed at improving the quality of the food served, cutting waste, improving buying methods, cutting overhead and in developing sales techniques for waitresses and counter help.

All of the foregoing applies to personalized service which can be performed by a commercial representative. Another type of service is rendered usually because of complaint calls made by our commercial cooking customers. All too often we never hear from a customer until he is unhappy for some reason or other. Perhaps something goes wrong with the equipment so that the results that he gets are so poor that in desperation he calls on us. More frequently, however, he continues to use the equipment at greatly reduced efficiency with a hope in his own mind that some day he can make a change. If our complaint calls for any reason are not handled promptly, the operator is not only dissatisfied, but the cook becomes discouraged with the results and the customer all too often is kept waiting and frequently served food not up to the high quality expected.

It is extremely important that every company have a well thought out routine schedule for calling on all their commercial customers. The hit and skip method of making such calls often aggravates rather than alleviates the very thing we are trying to accomplish. There are many good plans and such plans probably will vary considerably according to the size of the property serviced. In situations such as that of Central Indiana Gas Co. one call should be made every sixty days on customers using over 40 thousand feet of gas monthly, exclusive of heating load; at least one call every 120 days on customers using 20 thousand to 40 thousand feet monthly; customers using under 20 thousand feet can be serviced in the serviceman's spare time so that the customer will be called on once each year. We believe that this will save many service requests due to the fact that his equipment is kept in better operating condition. The schedule for the service man should be arranged by the commercial sales department.

At first glance it might seem as though this is a pretty heavy load of expense chargeable to the commercial cooking department. But the good that can be accomplished from such a routine program will often keep little troubles from festering and becoming big ones and will have the added feature of keeping our customers happy and their business profitable.

Promote equipment care

It is important too that our customers know how to give their equipment the proper care, and there are various pamphlets especially designed for this purpose such as "Care That Counts." Let's not be timid in our approach to our customer with reference to this subject. Frequently our customers are unhappy with equipment simply because they do not realize how necessary it is that equipment be kept clean on a prescribed schedule. We have found by experience that the large majority of our commercial cooking customers welcome a good honest discussion which will be informative and practical. We can't expect our customers to know these facts simply because they purchased equipment from some supply house whose primary interest was in selling equipment. The customer has to live with the equipment from then on, and in turn, we have to live with the customer from then on.

Stress should be laid upon the importance of having service schools, not only for our own employees, but as well for the employees of equipment supply houses which sell in our territory. We should encourage the manufacturers to develop service programs and to make available to the field skilled service men who are qualified to instruct service people in the field. It is the utility's job to relieve the equipment supply houses of service complaints caused as a result of the use of gas as a fuel. If you really want to make a friend out of an equipment supply house, relieve him of general service problems. While we can't ever hope to do that entirely we can certainly work toward that end. Whether or not we sell commercial cooking equipment, we certainly should make every attempt to encourage the equipment supply house to obtain the greater share of the business in our territory. The utility commercial representative should work on such a basis that he is not in competition with the supply houses, and he is there to render a service in the way of closing sales and rendering specialized service. In other words, give to the equipment house the same type of personalized service and the same type of appliance service that we would perform ourselves.

Our industrial customer with a cafeteria in his plant is generally overlooked. We seem to overlook the fact that thousands of our prospective residential customers eat in these cafeterias. Well prepared food from properly operating equipment is one of the best media of advertising. I believe that in spite of the fact that industrial customers are on the cheaper industrial rate and service their own equipment it is very important to service their commercial equipment to keep it operating at its peak. As expansions are made to new plants the cafeteria will have to speak for itself; well performing commercial equipment will be the only equipment considered for the new cafeteria.

Where the profit motive does not have a strong appeal such as the cafeterias in conjunction with a large industrial customer we have noticed that in many cases the architect is specifying all electric cooking equipment. This is a very defi-

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Research in the news . . . .

Study application of automatic ignition to commercial equipment

a PAR activity

Technical problems encountered in application of automatic ignition systems to commercial cooking equipment are reviewed in a new bulletin by the American Gas Association Laboratories. Published as Research Bulletin No. 65, "Application of Automatic Ignition Systems to Commercial Gas Cooking Equipment" it presents results of a PAR-sponsored project conducted under the supervision of the Committee on Industrial and Commercial Gas Research. It makes generally available for the first time, an authoritative review and analysis of automatic ignition systems, the problems encountered in their application to commercial cooking equipment and methods of their solution.

Engineering studies, laboratory experiments, and field inspection of representative types of contemporary automatic ignition systems indicate that these systems may be employed as effectively on commercial gas cooking equipment as on domestic appliances. However, more rugged systems with sensitivities equal to those found in domestic systems are needed in view of the extreme operating conditions imposed when installed in commercial cooking equipment.

As pilot burner heads and the hot junction of thermal elements may attain temperatures greater than 1200 F, it is essential that they be constructed of materials that will withstand such temperatures. Experimental studies on twelve automatic ignition systems installed on six contemporary commercial gas appliances and operated on natural gas at 7.0 and 10.5 inches water column, reveal that maximum pilot burner head temperatures varied from 507 to 1054 F. Maximum orifice temperatures attained by experimental pilot burner installations varied from 260 F to a high of 734 F depending on the type of appliance and application thereto.

Since automatic ignition equipment has operated satisfactorily for several years on domestic appliances with various gases, it is quite possible that high temperature pilot burner applications could be made insofar as pilot burner orifice and burner head temperatures are concerned when proper installation precautions are taken. Although experimental data indicates that in some instances pilot burner orifice temperatures above 500 F may be employed without encountering pilot stoppage, plugging and failure to function may be expected as either or both temperature and percentage of heavy or unsaturated hydrocarbons in the gas supply are increased.

Field studies indicated that major field difficulties encountered with automatic ignition systems on commercial cooking equipment result from clogging of primary air opening by dust, lint and fatty acids from operation in grease-laden atmospheres conducive to clogging, improper flame adjustment, extinction by drafts, clogged pilot filters and burning out of thermocouple connection wires. There appears to be a need for automatic pilot devices which will withstand ambient temperatures in excess of 300 F and for thermocouple type elements with

(Continued on page 53)

The oven burner of a restaurant range is examined prior to application of automatic ignition features. On the left of the heavy duty open top range are components of automatic spark ignition system used during studies of application to commercial cooking equipment

Section and Conference leaders chatting together are: Dr. C. W. Wilson, Baltimore, and H. Bruce Andersen, Philadelphia, Operating Section vice-chairman and chairman, respectively; E. G. Hammerschmidt, Fritch, Texas, chairman, Chemical Committee; and C. L. Hulswit, Spring Valley, N. Y., chairman, Gas Production

Among the U. S. Bureau of Mines personnel who attended the Production and Chemical Conference were: A. C. Fieldner, Washington; Dr. Frank W. Smith, Pittsburgh, who gave a paper, "How Does Coal Coke," and L. L. Newman, Washington

J. S. Haug, Philadelphia, chairman, Subcommittee on Survey of American Coals, pauses for a word with F. J. Pfluke, Rochester, a speaker

Philadelphia Gas Works Co. men E. D. Maurer and S. C. Symnoski attended the conference. Mr. Symnoski spoke on LP plant personnel training

H. M. Henry, Cambridge, Mass., spoke on "Economics of Peak Shaving," while Dr. O. W. Lusby, Baltimore, described oil fogging experiences

Record attendance at annual conference attests the growing import of production and chemistry

Technical advances cited at conference

Progress was the key word at the Production and Chemical Conference sponsored by the Operating Section of the American Gas Association at the Hotel New Yorker, in New York, May 26 to 28. A record attendance of more than 600 representatives of the gas industry, government bureaus and educational institutions participated in the three-day meeting. Technical and research advances were presented and discussed. Gas industry problems and solutions were brought to gas men from the United States and Canada.

At the opening session on Monday, May 16, the delegates were reminded by H. Carl Wolf, A. G. A. managing director, that the entire picture of the gas industry was changing because of the rapid expansion of our natural gas systems. Production and chemistry play important roles in this shifting production scene,

Mr. Wolf said. He predicted that many new developments would be presented to delegates during the three-day conference.

This prediction was fully supported in the three days of general sessions and special meetings and luncheon conferences.

E. G. Hammerschmidt, Natural Gas Pipe Line Company of America, Fritch, Texas, chairman, A. G. A. Chemical Committee, opened the meeting on Monday. The economics of peak shaving were discussed by Hall M. Henry, NEGEA Service Corp., Cambridge, Mass., and J. W. Carroll, Philadelphia Electric Co., Chester, Pennsylvania. Mr. Henry stressed the importance of plant investment costs per Mcf of daily capacity for different processes and also the holder costs of gas produced by these processes in figuring the economics of peak shaving. Degree days are also used to figure the economic capacity to install for each type of gas used. Mr. Carroll discussed costs of supplying gas and how the proper choice of production equipment and materials affects the economics of supplying the heating load.

A panel of safety experts headed by A. S. Hancock, Long Island Lighting Co., Mineola, N. Y., pointed out the need for intensive accident prevention programs. While the accident frequency rate in the industry was lessening, the severity rate was not improving. The panel declared that top management must be kept thoroughly sold on accident prevention. Members of the panel included H. T. Jayne, The Philadelphia Gas Works; H. C. Jones, New England Power Service Co., Boston; C. L. O'Reilly, Boston Consolidated Gas Co., and J. P. Stephens, The Cincinnati Gas & Electric Company.

The problems encountered in the operation of a standby high Btu oil gas plant were recounted by Glenn M. Hammond, Michigan Consolidated Gas Co., Grand Rapids. He said that selection and training of operating personnel was one of the most difficult problems, particularly in areas where natural gas is the major fuel. He advocated regular practice runs to keep crews in top shape.

Reports on PAR research

At the afternoon general session on Monday, the chairman was C. L. Hulswit, Rockland Gas Co., Inc., Spring Valley, N. Y., chairman of the Association's Gas Production Committee. A report on the gas production research work being carried on under the A. G. A. PAR Plan was given by F. J. Pfluke, Rochester Gas & Electric Corporation. He traced the general pattern of the program, terming it a "cooperative effort of the gas industry to reestablish our industry on a sound economic basis, which will keep it in a strong position to compete for the fuel market with such active competitors as the electric and oil industries."

Mr. Pfluke outlined several worthwhile advances that had been made in developing new processes and in obtaining information which will be useful in improving present day processes. He thanked the top technical men and executives who form the guiding committees that are directing the program.

Members of the staff of the Institute of Gas Technology delivered several important papers dealing with: phases of gasification of pulverized coal; production of substitute gases; interchangeability; and catalysts and catalyst supports. The majority of these subjects pertain to research projects being undertaken at the Institute. Staff members whose papers were presented included: C. G. Von Fredersdorff, E. J. Pyrcioch, H. R. Linden, J. J. Guyer, C. A. M. Hall, C. H. Riesz, D. L. Nicol, R. A. Brown, H. A. Dirksen and W. J. Pleticka.

A report on the production of low-cost synthesis gas directly from raw coal which the United States Bureau of Mines is studying at its Morgantown, W. Va., station, in cooperation with West Virginia University, was submitted by G. R. Strimbeck. Also cooperating in the report were J. B. Cordiner, H. G. Taylor, K. D. Plants, and L. D. Schmidt, from the Morgantown Station of the Bureau of Mines. The success of the work done at the pilot plant indicates an excellent future for the wider use of a direct pulverized coal-oxygen gasification process in the industry, the report declared.

Twin sessions were conducted by the Chemical Committee and the Gas Production Committee on Tuesday morning. E. G. Hammerschmidt presided at the

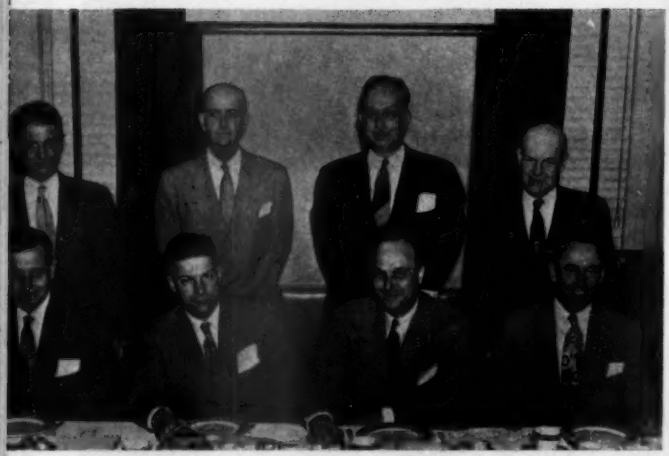
W. E. Tate, Brooklyn, co-author of a paper on natural gas underfiring, and Charles Koons, Kearny, N. J., speaker on oil pollution prevention

Seen together at the conference were: G. G. Dormer, Pittsburgh; V. M. Perry, Brooklyn; and A. E. Sands, Morgantown

C. E. Farmer and W. F. Brickell are both with United Gas Pipe Line Co. Mr. Brickell spoke on direct chemical determination of water vapor

● *Gas industry chemists and production men develop*

At the head table of the Chemical luncheon conference: Committee Vice-chairman W. E. Churchill, Boston; Chairman E. G. Hammerschmidt, Fritch, Texas; F. E. Vandaveer, luncheon chairman; J. D. Parent, Chicago, alternate chairman;



LP Gas Luncheon: Seated, W. H. Kramer, New York; Dean B. Seifried, Spring Valley, N. Y., alternate, and Ward A. Meldrum, Ann Arbor, luncheon chairman; and H. Emerson Thomas, Westfield, N. J. Standing, S. C. Symonski, Philadelphia; S. C. McLaughlin, Claremont, N. H.; A. B. Lauderbaugh, Pittsburgh; S. W. Horsfield, Garden City, N. Y.

Headliners at the luncheon conference on Water Gas were: R. B. Paquette, Chicago; Vincent Salzone, New York, alternate luncheon chairman; F. X. Asselin, Jr., Boston, luncheon chairman; A. G. Hall, Brooklyn, and B. L. Peables, Pawtucket, respectively chairman and vice-chairman of the Subcommittee on Water Gas

chemical conference. L. T. Bissey, of Pennsylvania State College, presented a report on the results of a study made on dust in natural gas pipelines and their effect upon rusting in pipelines. Water vapor is an important factor in the transmission of natural gas, particularly as regards the formation of hydrocarbon hydrates which may plug pipelines. Willard F. Brickell, United Gas Corp., Shreveport, described a method for determining water vapor in natural gas by a direct chemical method which should go far in supplementing conventional methods now employed. Air pollution and oil pollution problems were discussed by J. F. Barkley, Bureau of Mines, and Charles Koons, Koppers Co., Inc., respectively.

D. T. Mac Roberts, United Gas Pipe Line Corp., Shreveport, gave an interesting picture of the growth of the petrochemical industry. He said "petrochemical" was becoming a key word in civilization and that the growth of synthetics was reflected in the growing development of chemicals derived from natural gas. Production of synthetics in the past twenty-five years has grown to be a $5.5 billion industry. Natural gas chemicals are replacing many synthetics formerly produced from other sources. Refineries are far behind the markets and the demand is so great that plants are being built to develop petrochemicals that now range in use from drinks to detergents, he said. Mr. Mac Roberts pointed out that chemical companies estimate they can pay from 18 cents to 25 cents per Mcf for natural gas for use in developing petrochemicals. Natural gas companies must study the economics of entering the chemical field where a tremendous investment of capital and a highly specialized marketing set-up is required. Many transmission companies are effecting hook-ups with chemical companies, he said.

At the gas production conference, W. H. Isaacs, The Peoples Gas Light & Coke Co., Chicago, presided. W. E. Tate and Mark Harrison, Brooklyn Union Gas Co., presented an interesting paper based on the experiences of their company in the use of an excess of natural gas over the amount required for distribution. Underfiring of coke oven batteries was

velop ils of recent advances, problems and projects at seven major luncheon conferences

arbonization and coke luncheon: Front, F. D. Miller, Philadelphia, committee hairman; J. M. Spees, luncheon chairman and J. F. Farnsworth, Verona, Pa., al- rnate; C. H. Sawyer, Pittsburgh. Rear, John Beisty and Mark Harrison, Brooklyn

Plant Waste Disposal luncheon: Front, W. B. Hart, Philadelphia; K. E. Baird, Philadelphia, committee vice-chairman; and L. B. Bowman, Rochester, committee chairman. Rear, W. C. Powell, Philadelphia and J. F. Barkley, Washington

igh Btu luncheon: Front, V. M. Perry, Brooklyn, C. E. Utermohle, Baltimore, uncheon chairman; H. E. Ferris, Savannah, vice-chairman, Subcommittee on Man- facture of High Btu Gases. Rear, H. R. Linden, Chicago, J. W. Carroll, Chester, a., G. M. Hammond, Grand Rapids, J. O. Sholar, Columbia, South Carolina

Oxygen luncheon: Seated, Dr. Irving Roberts, Jeanette, Pa., chairman; H. R. Batchelder, Louisiana, Mo., chairman Oxygen in Gas Manufacture Subcommittee; C. L. Hulswit, Spring Valley, N. Y., chairman, Gas Production Committee; D. W. Beery, Pittsburgh. Standing, E. H. Reichl, Pittsburgh, and C. F. DeMey, New York

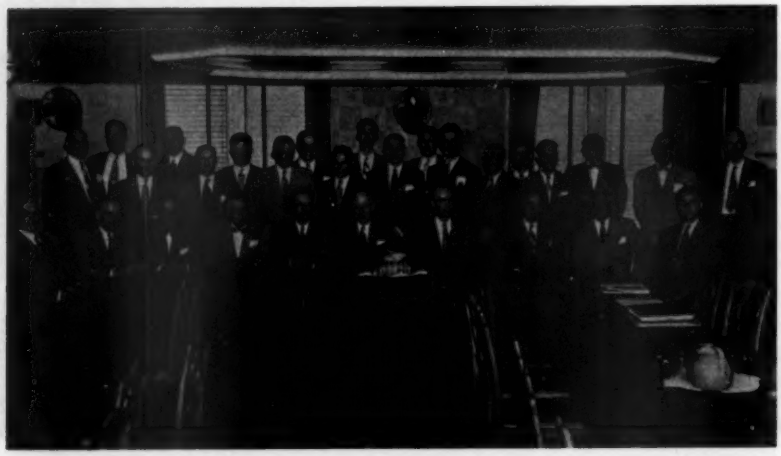
one of the successful uses, and the operating men told how their underfiring method was evolved.

In the absence of E. V. Schulte, Koppers Co., Inc., D. M. Mitsak, of Koppers, delivered a report on new trends in coal chemical recovery equipment. Dr. Frank W. Smith and Dr. Ralph H. Brown, prepared and presented an interesting study on the factors involved in carbonizing bituminous coal to produce coke. J. G. Sweeney, The Brooklyn Union Gas Co., submitted a report for the Coal Expansion Subcommittee, and recent developments in cyclic catalytic reforming of natural gas as developed by the United Gas Improvement Co. and United Engineers and Constructors, Inc., of Philadelphia, were described by Dr. E. H. Smoker, The United Gas Improvement Company. John O. Sholar, South Carolina Electric & Gas Co., Columbia, reported on the benefits derived by his company from installing a light oil scrubbing and recovery plant in its oil gas operation. The scrubbing plant not only recovered valuable quantities of light oil but it reduced accumulation in drips and cut customer service complaints.

Three luncheon conferences were held on Tuesday. At a conference devoted to the use of oxygen in gas manufacture, Irving Roberts, consultant, Jeanette, Pa., presided, assisted by H. R. Batchelder, U. S. Bureau of Mines, Louisiana, Missouri. The problem presented was the use of substitutes for pipeline gas—when and how much. Mr. Batchelder presented an annual report made by Dr. C. C. Wright of Pennsylvania State College on the present status of tonnage oxygen. C. L. Hulswit, Rockland Gas Co., briefly outlined problems operating gas companies can expect to face in the foreseeable future. C. F. De Mey, Columbia Gas System Service Co., New York, spoke on reserves and projected demand for natural gas and the economics of substitution. He also told of some of the transportation and distribution problems involved in use of natural gas substitutes.

D. W. Beery, substituted for L. W. Alberts, Blaw-Knox Construction Co., Pittsburgh, in giving a report on the manufacture of a pipeline gas substitute, and E. H. Reichl, presented a report on pipeline gas from bituminous coal that

The Gas Production Committee held a luncheon meeting, Monday, May 26, during the Production and Chemical Conference. Committee Chairman C. L. Hulswit, sitting, fourth from left, presided



The Managing Committee of the A. G. A. Operating Section held its meeting late in the afternoon of May 27, followed by a dinner. Section Chairman H. Bruce Andersen, sitting, center, presided

Subjects for presentation at the 1952 A. G. A. annual convention were discussed at the May 26 luncheon meeting of the Chemical Committee. E. G. Hammerschmidt, committee chairman, presided

had been prepared by H. S. Turner, Pittsburgh Consolidation Coal Company.

In summarizing the presentations that had been made, Dr. Roberts said that it seemed evident that through use of oxygen, a substitute gas could be made now at the 55 cent-65 cent per Mcf level. Further economies in production are probable and the time at which such substitute gas projects would be profitable is not too far in the future.

K. E. Baird, Philadelphia Coke Co., was chairman at the luncheon conference devoted to plant waste disposal. Linn B. Bowman, Rochester Gas & Electric Corp., spoke on the air pollution control problem in Los Angeles. W. B. Hart, Atlantic Refining Co., Philadelphia, described different types of oily wastes and methods of treating them. Some can be separated by sedimentation while others need chemical reagents to effect separation, he said.

J. F. Barkley, Bureau of Mines, discussed air pollution and answered questions. He told of the vigorous work Los Angeles was doing in overcoming this problem. W. C. Powell, Philadelphia Gas Works, read a paper prepared by Thomas B. Tinney, of the same company, on de-gassing holder water by aeration. Charles Koons, Koppers Co., Inc., Kearny, N. J., discussed and answered questions on methods of eliminating pollution from oil seepage from underground pools in a coke plant. This oil pool formation results from corroded pipelines and can be controlled by use of well point equipment.

The third luncheon conference was devoted to water gas and was held under the direction of F. X. Asselin, Jr., Stone & Webster Corp., Boston, as chairman, assisted by Vincent Salzone, Consolidated Edison Co. of N. Y., Inc. The chairman opened the discussion by keynoting safety in water gas plants. He emphasized the fact that safety should be one of the first considerations in plant layout and design. The necessity of proper training of both supervisory and operating personnel in safe practices was stressed.

Some difference of opinion was evident on the need for and method of using "physic oil" in water gas plants. The effect of coke size on fuel bed reforming was discussed and questions on scrubbing of reformed gas, tar separation and other operating problems were covered briefly.

Questions were asked and answered as

(Continued on page 52)

New York-New Jersey Regional Gas Sales Conference stresses need for intensive promotion of gas

Highgear sales promotion urged

Norman Millard, Bendix Home Appliance Division, who spoke on selling automatic gas dryers, chats with R. B. Laux, Kings County Lighting Co., 1951-52 conference chairman

New officers of the council for the ensuing year, Hugh L. Wathen, South Jersey Gas Co., who will serve as chairman, and Jack B. Frost, The Brooklyn Union Gas Co., who is to be vice-chairman, pause with Jay C. Shear, Rockland Gas Co., a council member

Through depletion of sales personnel and from lack of continuous intensive sales effort, the gas utility industry can lose a major share of the home appliance market. This serious possibility was stressed repeatedly at the 27th annual New York-New Jersey Regional Gas Sales Conference sponsored by the American Gas Association's Residential Gas Section at Monmouth Hotel, Spring Lake, N. J., June 23-24, 1952.

Opening the conference, Chairman Robert N. Laux, Kings County Lighting Co., Brooklyn, declared that a buyers' market now had returned and customers again have to be sold. Higher taxes, a possible shortage of materials, and intense competition make it necessary for the gas industry to promote and sell gas and gas appliances harder than ever. Natural gas is a help but not a panacea, he stated. Mr. Laux urged the 175 gas sales executives present to get behind the Old Stove, Open Door, Spring Style Show and other promotional campaigns being sponsored by A. G. A. He also praised the dealer sales program to be initiated by A. G. A. and recommended participation by gas utility companies.

Norman Millard, director of gas appliance sales for Bendix Home Appliances, Inc., South Bend, pointed out the tremendous increase that had taken place in electric advertising and publicity, and the gain in the number of new electric appliances in the market. All of these tend to add to the competition of gas utilities and gas appliance dealers. While automatic laundry dryer sales, among other appliances, had gained in sales volume in the past five years, the gas industry had not shared too greatly in this increase. However, because of the excellent promotional work being done in the past year or two, sales of automatic gas laundry dryers were up more than 100 percent in 1951, against a gain of 43 percent in electric dryers in that year.

The importance of home service representatives in selling automatic gas laundry dryers was stressed in a conver-

H. D. Valentine, The Peoples Gas Light and Coke Co., Chicago, analysed the psychological make-up of salesman Harold Jalass, Cribben & Sexton Co., Chicago, advocated better salesmen training and time planning to increase sales. With them is Margot Sherman, vice-president, McCann Erickson Advertising Agency

Second-day conference speakers Albert P. McNamee, "McCall's Magazine," reported on dealer inventories and plans, and James F. Donnelly, A. O. Smith Corp., Kankakee, who pictured a growing market for automatic gas water heaters. Hugh L. Wathen, South Jersey Gas Co., Atlantic City, wielded the gavel at that meeting

sational piece staged by Susan A. Mack, home service director, The Boston Consolidated Gas Co., and Margaret Doughty, director of Bendix Home Laundry Institute, South Bend. It was brought out that there are now a million users of automatic clothes dryers, but that 19 million prospects were looking to home service representatives for advice on this comparatively new appliance. In addition to stimulating interest and sales in homemakers, the home service representatives should help train utility and dealer salesmen in the use of laundry equipment. The ability to answer questions and to handle the complaints of customers and prospects was the greatest asset possible in selling automatic gas laundry dryers and in keeping the customer sold on this and all other gas appliances, the girls agreed.

Carl H. Horne, sales manager, Refrigeration Division, Rheem Manufacturing Co., New York, told the conference his company was going to continue its research work on the gas refrigeration patents it had purchased, and would reach a decision about going into production later. He declared that the gas utilities should set higher standards on all gas appliances, but that they should get together on what is wanted in the way of improvements. Requests for specific changes in models by individual gas utilities made it hard for manufacturers to maintain efficient tooling and production schedules. He recommended that the industry establish two or three classes of ranges and that manufacturers state whether they wished to be Class A, B, or C range manufacturers. Then the gas industry should select the best features of all CP ranges made today, incorporate them into a single model and establish that as the Class A model. Similar qualifications could be set up for other classes of appliances, Mr. Horne said. He stated that the manufacturers should utilize the results of the A. G. A. research carried on under the PAR Plan.

The competition for the consumer dollar today is terrific. The gas industry needs to clean house in its selling organization, and work together to fight for its share of this potential market. Otherwise it may be lost to electric competition, particularly in items of low saturation like water heaters, ranges and other equipment that the electric industry is promoting so powerfully.

Harold Jalass, Cribben & Sexton Company, told delegates that although the 1941 to 1950 retail sales were the highest in history, business forgot how to sell. Salesmen said "Hello" and the sale was made. But now huge sums had gone into expansion and improvement of plants. Even with the war effort, our production was exceeding sales. If war production ceases a tremendous effort would be needed to make consumers absorb the additional 25 percent in durable consumer goods that would be on the market. He advocated better training of salesmen and better planning of their time, as a valuable aid to increasing sales.

Automatic is a buy word that has lifted sales of all types of goods, from automobiles to television, he declared. He urged that gas utilities and dealers take advantage of the automatic features of today's gas appliances to promote their sale. There is more modernity in gas appliances than in any other appliance that

Margaret Doughty, Bendix Home Laundry Institute, South Bend, and Susan A. Mack, home service director, Boston Consolidated Gas Co., discuss gas appliance selling with Harold Jalass, vice-president, Cribben & Sexton Co., Chicago, during the New York-New Jersey Regional Gas Sales Conference. Each was a speaker

Margaret Doughty, director, Bendix Home Laundry Institute, unveiled a new mobile laundry unit. In a joint presentation with Susan A. Mack, home service director, Boston Consolidated Gas Co., Miss Doughty emphasized the important part which home service representatives can play in selling automatic gas laundry dryers

has public acceptance today, he said. Through their modern, automatic features, sales of higher priced appliances can be made, Mr. Jalass predicted.

Hugh Wathen, South Jersey Gas Co., Atlantic City, presided at the meeting on Tuesday. His first speaker, J. F. Donnelly, assistant general manager, A. O. Smith Corp., Kankakee, Ill., compared the crude water heaters first produced about 25 years ago with today's automatic gas water heater. The average price of today's heater, he said, was about the same as that of the first heaters which sold for $100 in 1925. He said that the market for automatic gas water heaters was constantly increasing. More than 2,500,000 water heaters become obsolete each year. As a result of promotional campaigns staged by A. G. A., GAMA and the gas water heater manufacturers and dealers, more than 2,350,000 gas water heaters were sold in 1950 and despite a slow-down in business, more than 1,900,000 automatic gas water heaters were sold in 1951. He said that in this field alone, national advertising by manufacturers, A. G. A., and GAMA exceeded the national advertising on electric water heaters.

Albert McNamee, home appliance marketing manager for *McCall's Magazine*, reported results of a recent tour he made covering retail appliance stores in all parts of the country. Dealers' stocks of appliances were very heavy, despite cutbacks because of restrictions on materials. The great shortage was in customers, he said. Price cutting, trade-ins, freak promotional stunts were being employed but mostly unsuccessfully. He urged a return to creative selling on the part of utility and dealer sales forces. Ignorance and apathy were obstacles to be overcome in the dealer sales forces. Defeatism was too prevalent in the gas industry, he said. The big electric manufacturers were doing seven times more advertising than gas and there was danger of the gas industry losing the appliance market by default, he declared.

In the closing talk on the program, H. D. Valentine, manager of sales promotion, The Peoples Gas Light & Coke Co., Chicago, offered his views of some of the requisites of a good salesman. Using the structure of the play "Death of a Salesman" as a theme, he pointed out the weaknesses and the corresponding strength in the psychological make-up of a salesman. Based on experiences in guiding the activities of the 125-man sales force of the Chicago gas utility, Mr. Valentine said salesmen must have the appreciation of management and a product of which he can be proud. As he produces more, he should get more. Supervisors must have all the ability and knowledge necessary to close a sale and must be able to impart this knowledge to sales personnel, he said.

Hugh L. Wathen, South Jersey Gas Co., Atlantic City, was elected chairman of the New York-New Jersey Regional Gas Sales Council, for the coming year. Jack B. Frost, The Brooklyn Union Gas Co., was elected vice-chairman, and Henry Rohrs, Elizabethtown Consolidated Gas Co., Elizabeth, N. J., was elected a member of the council. A friendship hour was sponsored by the Gas Appliance Manufacturers group each evening. Golf prizes were distributed at a dinner on Tuesday evening.

Industry news

Doubled natural gas load predicted

HOUSEHOLD USE of natural gas may more than double in the next 25 years, stated Dr. John F. Foster, supervisor of the fuels division of Battelle Memorial Institute, Columbus, Ohio. Dr. Foster made his statement at the American Chemical Society's spring meeting of the Division of Gas and Fuel Chemistry during May.

Natural gas is particularly adapted to the needs of the small consumer stated Dr. Foster. He estimated that about 20 percent of total gas production is devoted to domestic use.

The rapid increase in domestic consumption may be partly counterbalanced, however, by a slower rate of increase in other uses, since the gas will be supplied to the premium household market in preference to others.

"Natural gas utilities are facing with mixed feelings the problem of satisfying the household demand," he asserted. "Some are reluctant to distort their demand pattern by planning to increase the heating load on their lines. But the heating load must be accepted if utilities are to stay in business. The development of terminal storage must proceed and the efforts to increase the summer load will be pressed."

"The development of a system of pipelines for transporting natural gas over long distances has been one of the major technological advances," Dr. Foster declared. "Advances are still being made. The diameters of proposed pipelines and the operating pressures are increasing, with accompanying cost reductions. However, these are normal advances in technology resulting from extensions of known engineering principles, as experience is gained in pipeline design and operation."

The summer load problem has been particularly vexing to natural gas producers, according to Dr. Foster. Peak demand for gas comes during the winter months. Terminal cost of gas from pipelines, however, is made up predominantly of fixed charges on the pipeline investment. The pipeline must operate at or near capacity at all times, if unit costs are to be kept low. In order to obtain capacity loads, much gas has been sold during summer months at extremely low prices.

Liquefied natural gas, transported by ships at low cost, may supplement supplies now being delivered by pipeline, Dr. Foster stated. The liquefaction process may be economically feasible in areas which have a supply of natural gas of 16 million cubic feet a day, but there is no present market, he said.

"If such a source of natural gas were within reasonable distance of tide water, a liquefaction plant might be used," Dr. Foster explained. "A reasonable distance would probably be less than 100 miles, and preferably less than 50 miles. Over such a distance, a pipeline could conceivably be justified to transport gas by field pressure to the liquefaction plant, thus eliminating the cost of compressor stations."

Delivered cost of liquefied gas shipped 1,500 miles from the liquefaction plant by ocean tanker would be 38 cents or less a thousand cubic feet, Dr. Foster indicated, basing his estimates on a total shipment of 16 million cubic feet of gas. This compares with an estimated cost of 28 to 35 cents a thousand cubic feet for gas transported the same distance by 24-inch pipeline.

Texas Eastern proposes to extend gathering system

AT THE STOCKHOLDERS' annual meeting, R. H. Hargrove, president of Texas Eastern Transmission Corp., announced that the company has filed an application with the Federal Power Commission requesting approval to build new pipeline facilities in Texas and Louisiana at a cost of approximately $26 million.

Texas Eastern's proposed new line will consist of 315 miles of 24-inch diameter pipe. Plans provide for constructing and placing the new line in operation by November 1, 1952. As projected, the line will originate near Providence City, Texas, the terminus of the company's 16-inch line in that area, and will extend northeast through Texas and Louisiana to a point near Caster, Louisiana. It will join the company's 20-inch line at Caster. The new facilities will transport up to 200 million cubic feet of natural gas per day.

Gas industry helps revise code

TODAY, BUILDING CODES in Denver, Colo., are modern and up-to-date, thanks to the efforts of the Rocky Mountain Gas Association.

Almost a decade ago, in 1944, Denver architect G. Meredith Musick took the job of Rocky Mountain Gas Association's first president. His initial action was to appoint an association gas fitting code committee. This committee worked diligently for the next few years to draft a proposed gas fitting ordinance. In drafting the code, ordinances from many other cities were studied, and several authorities were consulted, including the American Gas Association, American Society of Heating and Ventilating Engineers, National Warm Air and Air Conditioning Association, the American Standards Association and the National Bureau of Standards. After many revisions, a final draft was submitted to city authorities.

The municipal administration, awakened to the city's crying needs, went to work on the huge task of revising the entire, antiquated building code.

Denver's mayor appointed a building code committee with Mr. Musick as chairman. The city's architects, engineers, contractors and laborers were represented on the code committee. The RMGA played a big part in the work, for its members were particularly interested in solving the problems of proper natural gas combustion at Denver's high altitude. The codes, as now drafted, should give Denver citizens adequate protection and at the same time put only minimum restrictions on industry operators serving the public with natural gas.

The results of these efforts in behalf of the new building code were explained at a Rocky Mountain Gas Association banquet, on May 13. At this time, members heard Ray Chase and Joseph Antonio, both of the municipal administration, discuss the progress which has been made. Presiding at the meeting were D. A. Bell, president, and William Van Genderen, vice-president of Rocky Mountain Gas Association.

Council accepting award applications

IT'S TIME FOR all gas utilities that can qualify to apply for National Safety Council Awards. Three types of awards are granted by the Council for outstanding accident prevention work. The awards are made automatically on the basis of submitted reports.

The three types of awards are: 1) *The Award of Honor,* the highest award. It goes to companies which complete 3,000,000 man-hours without a disabling injury, also to those which meet rigorous statistical standards for safety work although a no-accident record is not maintained. 2) *The Award of Merit,* has similar but less severe requirements. The number of accident-free man-hours needed to qualify is between 1,000,000 and 3,000,000. Standards for non-perfect records are also less exacting. 3) *The Certificate of Commendation,* given only for no-accident records for one or more calendar years, requires exposure of 200,000 to 1,000,000 man-hours.

Awards are made automatically for records established within the calendar year, or may be made on special application where consecutive months of two years are involved.

Applications should be addressed to National Safety Council, 425 North Michigan Ave., Chicago 11, Illinois.

International Union names Hendee president

Robert W. Hendee, president, Colorado Interstate Gas Co., Colorado Springs, and former president, American Gas Association, was elected president of the International Gas Union at the 5th International Gas Conference, Brussels, Belgium, June 16-19. The election of Mr. Hendee for a three year term, marks the first time since the International Gas Union was formed 20 years ago that an American gas executive has been chosen president.

The International Gas Union is composed of representatives of the leading gas associations from the principal nations of the world. The A. G. A. represents the United States. Charles E. Bennett, president, The Manufacturers Light and Heat Co., Pittsburgh, and president of A. G. A., and H. Carl Wolf, managing director, A. G. A., were among the principal speakers at the conference.

Delegates attended the conference from Belgium, Canada, Czechoslovakia, Denmark, England, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, and Switzerland. Delegates approved an application for membership from the Japan Gas Association.

Important reports and papers presented at the conference are available from R. H. Touwaide, general secretary, International Gas Union, 4 Avenue Palmerston, Brussels 4, Belgium. The papers and reports, numbered for easy reference, include:

1. "Statistics of the European Gas Industry," report of the Association Royale des Gaziers Belges. (Text in French). 2. "Education and Training in the Gas Industry," report of The Institution of Gas Engineers. (English). 3. "Existing Standards for Controlling the Maximum Permissible Content of Hydrogen Sulphide and Total Sulphur in Distributed Gas," report of the Association Royale des Gaziers Belges. (French). 4. "French Contribution to the Problems Raised by the Substitution of Different Gases by One Another," report of the Association Technique de l'Industrie du Gaz en France. (French). 5. "Safety Regulations Concerning the High-Pressure Storage of Gas," report of the Vereniging van Gasfabrikanten in Nederland. (English).

Also presented were: 6. "The Internal Corrosion and the External Corrosion of Pipelines," report of the Association Technique de l'Industrie du Gaz en France. (French). 7. "Utilization of Mains for Gas Storage," report of the Association Technique de l'Industrie du Gaz en France. (French). 8. "Use of Coke in Domestic Heating Appliances," report of the Association Royale Des Gaziers Belges. (French). 9. "Note on Disposal of Gas Works Effluents," report of the Institution of Gas Engineers. (English and French). And, 10. "The American Gas Association Appliance Approval Program," by George M. Mitchell, president, A. G. A. and president, The Peoples Gas Light and Coke Co., and Edwin L. Hall, director A. G. A. Laboratories. (English).

Charles E. Bennett

Robert W. Hendee

H. Carl Wolf

Also: 11. "Problems in Changing from Manufactured to Natural Gas," by H. Carl Wolf, managing director, American Gas Association and Thomas Lee Robey, research coordinator, A. G. A. (English). 12. "Legal Structure of Gas Distribution Undertakings in Belgium," paper by Edgar van den Broeck, docteur en droit, directeur adjoint de la Fédération de l'Industrie du Gaz. (French). 13. "New Techniques for the Production and Treatment of Gas in the French Gas Industry," by Robert Delsol, chef du service "Production" direction de l'Exploitation de Gaz de France." (French). 14. "Use of Propane in the French Gas Industry," by P. Albrieux et A. Flurer, ingénieurs en chef ála direction de l'equipment de Gaz de France. (French). And, 15. "Town Gas in Steel Metallurgy: Heat Treatment Using Controlled Atmospheres and Gaseous Cementation," by Roger Prevot, chef du service de physique industrielle, direction des etudes et recherches Gaz de France. (French).

Still other papers heard at the conference were: 16. "Alternative Methods of Gas Production," by J. E. Davis, M. Inst. Gas E., F.R.I.C. (chief technical officer), South Eastern Gas Board, Great Britain. (English). 17. "Steam and Power in the Gas Industry," by L. J. Clark, B.E.M., M.Sc., M.I. Mech. E., M. Inst. Gas E., A.M. Inst. C. E., A.M.I.E.E., North Thames Gas Board, Great Britain. (English). 18. "The Selection and Design of Gasholders," by R. H. Busbridge, design engineer, North Thames Gas Board, Great Britain (English). 19. "Complete Gasification in the Chemical Industry and Particularly in the Gas Industry," by Prof. Dott. Ing. Ivo Giordano, direttore della Officiana Gas di Napoli, Italy. (French). And, 20. "Calculations of Distribution Systems Supplied with Different Alternative Gases," by Dott. Ing. Arrigo Böhm, direttore centrale tecnico Societá Italiana per il Gas. (French).

Also heard by the delegates were: 21. "The Reactivity of Coke Especially to Steam," by G. A. Brender á Brandis and J. Felsbourg, Technische Hoge School te Delft. Afd. der Chemische Technologie, Netherlands. (English and French). 22. "Experiences in Designing Boiling-Pans," by A. van der Linden, leider Afd. Gastoepassing van de Gasstichting, Netherlands. (English). 23. "Some Considerations Concerning Welded Joints and Internal and External Protection of High Pressure Gas Pipelines," by Ir. N. H. M. Tychon, bedrijfsingenieur bij het Gasdistributiebedrijf Staatsmignen in Limburg, Heerlen, Netherlands, in collaboration with Ir. B. N. M. Bruls and Dipl. Ing. E. H. L. Niessen. (English). 24. "New Design for the Construction of Coke Dry-Cooling Plants," by W. Hersche, ingénieur en chef, "Sulzer Fréres S.A.," Winterthur, Switzerland. (French). And, 25. "Some Problems of Long Distance Gas Transmission and of the Use of High-Pressure Gas Holders," by Th. Bremi, ingénieur en chef du département de compresseurs á la Société Suisse pour la Construction de Locomotives et de Machines, Winterthur, Switzerland. (French).

And, finally, there were presented: 26. "Production of Anhydrous Phthalic Acid in Coke Oven Plants and Gas Works, Avoiding the Intermediate Production of Naphthalene," by C. W. Pilo, president, Svenska Gasverksföreningen, Sweden. (English). 27. "New Design of Direct Cooler for Gas at Gas Works and Coke Plants," by C. W. Pilo, president, "Svenska Gasverksföreningen, Sweden. (English). 28. "Utilization of Gases of High Methane Content in the Gas Industry," by Dr. techn. Dipl. Ing. Karl Pilz, Austria. (French). And, 29. "Transactions of the Fifth International Gas Conference, Brussells, 1952." (French and English).

Accident prevention is theme of new publications

IN RECENT WEEKS, A. G. A. has released three timely publications, all with the same aim: to increase industry safety.

The first, "How Gas Men Get Hurt," is the fledgling issue of a newsletter on industry-wide accident prevention. The purpose of the newsletter will be to exchange information on definite prevention methods. Specific stories are now being solicited from the industry to insure a backlog for the newsletter. For a copy of the first issue, or for more information on "How Gas Men Get Hurt," write to W. H. Adams, secretary, Accident Prevention Committee, A. G. A. Headquarters.

The second accident prevention publication is a bibliography of 16 mm. safety films applicable to the gas industry. Based on the Educational Film Guide, the 27-page bibliography gives information on projection facts; sources; prices; and where to obtain the films. None of the films are available from A. G. A., but the bibliography can be obtained free from Mary E. Agee, librarian, American Gas Association Headquarters, New York.

A review, "Employee Accident Experience in the Gas Utility Industry," has been issued by A. G. A.'s Bureau of Statistics. The 24-page booklet contains charts and tables to give the reader specific accident information on any phase of the gas industry. It is available free from the Bureau of Statistics, A. G. A. Headquarters, New York.

Fighting interior fires described in NFPA publication

ALTHOUGH PUBLISHED by the National Fire Protection Association this new book has not been acted on by their staff or committees. However, this significant contribution to the literature on modern fire fighting includes 71 illustrations and numerous case histories of actual fires with analyses of what was accomplished by use of water and through the latest fog fire fighting techniques. "Attacking and Extinguishing Interior Fires" can be used as text for permanent reference for the training of both experienced fire fighters and recruits. A significant chapter describes procedures and reasons for getting the maximum amount of heat absorption from a given quantity of water. Special attention is focused on utilizing the expansion and heat absorbing properties of water being converted into steam.

Although the new book does not contain any material specific to the gas industry, it should nonetheless be of interest to safety men and to those responsible for fire squads in companies large enough to have them.

N.F.P.A. statistics show that fires caused by gas and gas appliances are few in comparison to other causes such as smoking and matches or fixed electric services. The gas industry can rightfully assert that its contribution toward attacking fires is to prevent them by installation of inherently safe equipment.

ATTACKING AND EXTINGUISHING INTERIOR FIRES *by Lloyd Layman. National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass. 134 pp. $3.75.*

FPC studies natural gas rate increases

TWO LEADING natural gas transmission companies—Texas Gas Transmission Corp. and United Gas Pipe Line Co.—have filed applications with the Federal Power Commission for increases in wholesale natural gas rates.

United's proposed increase would amount to $8,400,000 a year, or 64 percent, based on the 12 months ending April 30, 1953.

Concurrently, United proposed to replace all of its special contracts with a generally available tariff. The increase would affect customers which serve areas in the Midwest, the South and East. The higher rate is necessary, says United, because of the increased cost of purchased gas, greater operating expenses and increased taxes.

The Texas Gas proposal amounts to approximately $12,480,000 or 28 percent, based on the 12 months ending May 31, 1953. The proposed increase rates would affect 34 customers in the South and Midwest. Texas Gas also claimed that the proposed new rates reflect increased costs of gas purchased, labor and taxes. Additional gas purchase costs alone account for $8,450,000 of the proposed increase.

Both proposed increases, if authorized by the commission, will be effective July 1.

The Federal Power Commission has announced also that it has rejected one and suspended four previous gas rate increase proposals, all of which were scheduled to go into effect June 1. The proposed increases, which would together total more than $50,000,000 per year, are by Texas Eastern Transmission Corp., Shreveport; Mississippi River Fuel Corp., St. Louis; The Ohio Fuel Gas Co., Columbus; The Manufacturers Light and Heat Co., and Home Gas Co., both of Pittsburgh.

The commission suspended the proposals of Texas Eastern, Ohio Fuel Manufacturers and Home, and rejected that of Mississippi River Fuel.

Propose Canadian natural gas pipeline link

TENNESSEE GAS Transmission Co., Houston, has filed application with the Federal Power Commission requesting authority to construct facilities which would increase the capacity of its system by about 66 million cubic feet of natural gas per day. The new pipeline would serve eastern Ontario, Canada.

Concurrently, an amended application was filed by Tennessee and Niagara Gas Transmission Ltd., Toronto, seeking authorization for the export of approximately 24 billion cubic feet of natural gas per year from the United States to markets in Canada. The original application was filed by the two companies last March. Under the proposal, Tennessee would transport the gas from the Gulf Coast area for delivery to Niagara at the U.S.-Canadian boundary near Niagara Falls, N. Y., for resale in Toronto and other eastern Ontario markets.

The proposed new facilities covered by Tennessee's certificate application are estimated to cost approximately $44,740,000, and would increase the daily design delivery capacity of Tennessee's system from the total of 1,515,000,000 cubic feet as presently authorized or applied for, to approximately 1,581,000,000 cubic feet.

Tennessee plans to construct about 45 miles of 20-inch pipe, to be known as the Niagara spur, extending from its system near Buffalo, N. Y., to the U.S.-Canadian boundary near Niagara Falls. In addition, Tennessee would build about 107 miles of 26 and 30-inch loop along its existing system; construct six new compressor stations with a total of 80,500 horsepower; install new units totaling 51,500 horsepower at existing compressor stations; construct approximately 50 miles of miscellaneous lateral lines to connect additional sources of gas supply to its pipeline system; and build an aerial suspension pipeline bridge across the Niagara River.

Tennessee said that none of its gas reserves are involved in the application, since the proposal involves a transportation service and not a sale of gas. The plan calls for Niagara Gas Transmission to purchase the gas in producing areas of the southwestern United States, with Tennessee transporting this gas, for the account of Niagara, to a connection with Niagara's facilities on the U.S.-Canadian border.

Accountants meet in Virginia

The A. G. A. Accounting Section's Managing Committee meets at The Homestead, Hot Springs, Va., on June 5 and 6. Seated, left to right: B. P. Smith, Jr.; W. C. Rodgers; A. A. Cullman; C. E. Beddows; Thomas J. Shanley; R. F. McGlone, chairman; B. S. Rodey, Jr., vice-chairman; Miss Van Arsdale; L. E. Reynolds; A. B. Cates, Jr.; A. E. Miller; M. H. Parkinson; J. F. Preish. Standing, left to right: W. R. Morton; W. J. Foster, Jr.; P. J. Imse; W. D. Sweetman; Arthur Skelton; C. J. Muhlholland; J. G. Ross; J. T. McKay; D. E. Barr; E. N. Keller; A. T. Gardner; J. F. Rooney; L. W. Buchanan and J. A. Williams

Ohio Fuel Gas Company sets new safety record

AN ALL-TIME safety record in the gas industry has been set by the Elyria district of The Ohio Fuel Gas Company, with 5,048,815 continuous man-hours without a disabling injury. This included the period from April 2, 1939 through February 29, 1952. The previous record in the gas industry had been 3,167,788 man-hours without a disabling injury held by the Hope Natural Gas and subsidiary companies, Clarksburg, West Virginia.

In recognition of its outstanding accident prevention achievement, Elyria District No. 3 was presented with a Safety Merit Award on June 7, by William H. Adams, American Gas Association's safety consultant, on behalf of Charles E. Bennett, president of A.G.A. Speakers at the dinner meeting at which the award was presented also included Frank S. Williams, vice-president, The Ohio Fuel Gas Co., and Claude F. Bronson, Elyria district manager.

The record achieved by the Elyria district is a significant accomplishment resulting in part from the intensive drive being carried on by the gas industry to prevent accidents.

During 1951, the gas industry had 15.72 disabling injuries per million man-hours of exposure. This was 1.9 percent lower than the previous year and marks the fourth successive yearly decline in the industry's accident frequency rate. The number of disabling injuries per 100 employees declined from 3.33 in 1950 to 3.26 in 1951, a decrease of 2.1 percent. These figures are based on reports from 402 gas utilities, representing 90 percent of the employees in gas industry.

Gas men admire A. G. A. Safety Merit Award won by The Ohio Fuel Gas Co. for 5,048,815 man-hours worked without a disabling injury. Left to right: Frank S. Williams, utility president; Claude Bronson, Elyria manager; William Hoare; S. A. Nippell; H. C. Taylor; R. C. Kodel and W. H. Adams, A. G. A.

Utility sparks Heritage Week in Arizona

CLIMAXED by Arizona Public Service Co.'s third annual public meeting, American Heritage Week was observed from May 1-7 in almost all Arizona communities. The public meeting, held in the local high school, attracted an audience of 1200.

At the meeting, President Harry Sargent emphasized the importance of free enterprise in the American economy. Arizona Public Service and the Phoenix Junior Chamber of Commerce co-sponsored the Heritage Week, proclaimed throughout the state by Governor Howard Pyle. All utility offices were decorated with heritage displays, stressing the American way of life and the importance of voting in the 1952 elections. And the company monthly house organ *Spark and Flame*, dedicated an entire issue to the project.

An intensive campaign, in which utility employees served as volunteer workers, was launched in Phoenix to register every qualified person to vote. An estimated 2,000 people were registered.

In addition, ministers, priests and rabbis devoted one sermon during the week to the ideals and principles which have made our country strong.

Southwestern Short Course draws record enrollment

A RECORD CROWD of 1,034 persons attended the Southwestern Gas Measurement Short Course. An annual event at the College of Engineering, University of Oklahoma, the course was held this year from May 27-29.

The course was opened by the general chairman, James L. Griffin, Northern Natural Gas Co., and the initial address was delivered by the company president, J. F. Merriam.

During the short course, Mr. Griffin was promoted to the executive committee, of which W. H. Carson, dean of the College of Engineering, is chairman. The executive committee appointed T. S. Whitis, West Texas Gas Co., as chairman of the general committee for the 1953 short course. Other appointments included: Pat H. Miller, Texas Eastern Transmission Corp., chairman of the program committee; R. O. Cox, Lone Star Gas Co., chairman of the publications committee; T. S. Kirkpatrick, Panhandle Eastern Pipe Line Co., chairman of the practical methods committee; Gordon B. Gudger, Gulf Oil Corp., chairman of the exhibits committee; Kate A. Niblack, Oklahoma Utilities Association, chairman of the publicity and registration committee; and W. H. Carson, chairman of the general arrangements committee.

Officials of 1952 Short Course gather at Norman. Seated (l. to r.) T. S. Whitis, program chairman, W. H. Carson, local arrangements chairman; Kate Niblack, registration and publicity chairman; James L. Griffin, general chairman. Standing (l. to r.): K. R. Tibbetts, publications chairman; W. A. Griffin, exhibitors' advisory chairman; R. O. Cox, practical methods chairman; and Roy S. Peace, Jr., chairman of exhibits

Top Dresser executives meet on West Coast

Discussing executive training and development programs during Dresser Industries Executive Conference in Los Angeles are (left to right): A. R. Weis, president, Pacific Pumps, Inc.; R. E. Reimer, vice-president, secretary and treasurer, Dresser Industries, Inc.; Chairman H. B. Boncher, general manager, Dresser Manufacturing Div., and vice-president, Dresser Industries; H. N. Mallon, president; R. P. Brown, director of personnel and organization planning; J. B. O'Connor, executive vice-president; T. L. Moody, director of industrial relations, all of Dresser Industries, Inc., Dallas, Texas

United expands

TO MEET the steadily growing demand for its natural gas services, United Natural Gas Co., Oil City, Pa., is investing almost $4.4 million this year to expand and improve its facilities, now serving more than 75,000 customers in the northwestern sector of the state.

This is in addition to expenditures exceeding $19 million made since the end of World War II, to increase and expand the company's natural gas production, storage, transmission and distribution facilities.

The construction program for 1952 covers a variety of projects. Part of the work will be in the company's natural gas fields where additional wells will be drilled and the necessary gathering lines will be laid. United Natural also will expand its natural gas underground storage fields. New high pressure transmission lines will be laid and some increased horsepower will be provided for the company's compressor stations.

Mr. Rose indicated that the company's network of low pressure distribution lines likewise would be expanded to take care of an estimated 1,500 new customers seeking its natural gas services within the year.

A certificate of public convenience authorizing the purchase of East Brady Fuel Gas Co. by United Natural Gas Co., Oil City, Pa., was issued recently by the Pennsylvania Utility Commission.

Students tour Pennsylvania utility's territory

FORTY-NINE HIGH school seniors, all home economics majors, were guests of United Natural Gas Co., Oil City, Pa., recently when the company conducted its second annual gas country tour.

The group, consisting of one girl from each high school in the communities served by United Natural, was selected by other home economics classmates for the sightseeing trip.

The tour followed a route in Jefferson, Elk and Clarion Counties noted for natural beauty, and included stops at several United Natural installations, plus a visit to Pennsylvania's Cook Forest. Along the route, and at the inspection points, the students had the opportunity to see and hear about gas company operations.

H. S. Rose, the utility's president, 16 company representatives and several home economics instructors accompanied the group as tour narrators, guides, drivers and chaperones.

Peoples Natural leads large utilities in safety

THE PEOPLES NATURAL Gas Co. has been awarded 1951 first place of all large gas utilities by the National Safety Council.

Peoples Natural employees worked 3,979,262 hours with only five lost-time accidents. The frequency rate was 1.26, 88 percent better than par, and the severity rate was .03, 96 percent better than par. For this excellent record, the utility also received the National Safety Council's coveted Award of Honor.

The gas company is proud of the 1,299,839 no-injury manhours, from August 11, 1928 to December 31, 1951, which were worked by six stations under the direction of division engineer George K. Gibson. Another record is the 1,941,673-hour stretch which employees worked last year without a lost-time accident.

Florida utility stages four-day cooking school

THE THRIFTY GAS Kitchen Cooking School, held by the South Atlantic Gas Co., Orlando, was one of the most successful ever staged by the utility.

Sponsored in conjunction with daily local newspapers and food markets, the school was held from May 6-9. Home economists from the National Livestock and Meat Board, Rossie Ann Gibson and Jean Kinzler presented gas service and equipment to the school's packed auditorium audience.

Appliance manufacturers and utility cooperated closely to make the school interesting to the city's homemakers. Many prizes were awarded—water heaters, wall heaters and a grand prize deluxe "CP" range—all donated by the manufacturers.

Consider proposed gas storage area

A FEDERAL POWER COMMISSION hearing commenced on June 30 to consider a proposal by Natural Gas Storage Co. of Illinois to develop an underground storage area for natural gas.

The project, to cost initially $17 million, would be used to store natural gas for Natural Gas Pipeline Co. of America and Texas Illinois Natural Gas Pipeline Company, both of Chicago. The three companies are affiliated.

Kerr forms new company

A. J. KERR has resigned from Rockwell Manufacturing Co. to organize the Kerr Engineered Sales Co., Pittsburgh. The new sales company will develop and sell products to the gas and oil industries.

Utility and manufacturer cooperate in bake-off

THE BEST CAKE BAKER in Brooklyn and Queens Counties, New York, was discovered this Spring by Brooklyn Union Gas Co. and range manufacturer, Geo. D. Roper Corporation. She is Mrs. Elsa Kathmeyer, a homemaker who won the two-borough championship over 100 top-notch bakers, with her "Black Beauty Cake."

The competition ran from April 29 to May 15. Homemakers were prodded over TV, the gas company's sales floors and utility home service demonstrations, to submit their best baking to a panel of food experts for judging. Eight winners picked in these preliminaries from more than a hundred contestants, then met in one of Brooklyn's hotel ballrooms for a "batter royal." Each finalist was furnished with a Roper "CP" gas range and other necessary equipment with which to bake for the title.

Walter Herlihy, TV announcer, moderated before a contest audience of 1,000. During the two-hour bake-off, Brooklyn Union staged a Spring Style Show, displaying the fashions of leading designers.

The contest judges were Mrs. Josephine McCarthy, nationally famous cooking expert; Elsa Steinberger, food editor, *The Brooklyn Daily Eagle;* Mrs. Janet Shusky, home economics professor, Pratt Institute; and Mrs. Marjorie Wardman, The Long Island Lighting Company.

First, second and third prizes were a Roper "CP" range, a Whirlpool Gas Clothes Dryer and a set of aluminum kitchen ware, respectively.

Gas range manufacturers launch "Operation Sales"

SEVENTEEN MANUFACTURERS, representing more than 60 percent of the nation's gas range production, approved plans for "Operation Sales," the industry's biggest promotional drive, at the annual meeting of the Gas Appliance Manufacturers Association. E. Carl Sorby, vice-president of Geo. D. Roper Corp. and chairman of GAMA's domestic gas range division, announced that the "entire industry is showing a readiness to campaign for the tremendous potential market for automatic gas ranges which we believe will amount to 5,000,000 sales a year."

Plans for launching "Operation Sales," Mr. Sorby said, include an advertising and promotional appeal to wives, mothers, prospective brides and teen-agers with provision for a complete sales-making package for dealers.

The program will be aggressively merchandised to dealers and utilities. This will be accomplished through trade paper advertising and through reprinting of key consumer advertisements for distribution by dealers and salesmen. Newspaper mats, in addition to direct mail pieces and envelope stuffers, will be furnished for gas company and dealer use.

Specific targets of the gas industry's united-front campaign are listed as home economics teachers, 3,000,000 students between the ages of 12 and 22, adults in night courses, 4-H Clubs, homemakers in evening classes, members of school boards, administrative officers, school business managers, purchasing agents and supply houses; junior college presidents, deans of teachers' colleges, heads of normal schools, school building architects and directors of visual education.

Mr. Sorby pointed out that while "Operation Sales" will not replace the "CP" program, the new program amounts to an affirmation of the willingness of all factors in the gas industry to join forces in "modern merchandising to match modern gas-range production and efficiency."

New computing service for gas engineers

A NEW GROUP, specializing in applied mathematics, has been formed by the Mathematical Computing Service, Brooklyn, New York. The group, which consists of mathematical consultants holding doctorate degrees, is qualified to treat problems in applied mathematics related to the physical sciences.

The staff will specialize in performing services for industries and universities desiring calculations of a high degree of complexity. The group is prepared also to treat mathematical problems in the field of gas engineering. In this field, an important function will be the mathematical formulation and solution of a problem from given physical data.

Consolidated Edison sponsors natural gas school

ALL NEW YORKERS have switched to natural gas—either straight or mixed with manufactured.

Since city ordinances place responsibility for the installation and servicing of gas piping and gas-burning equipment on landlords, it is necessary that a wide field of businessmen and mechanics engaged in the gas trades be familiar with the characteristics of both types of gas.

To meet this situation, Consolidated Edison Co. of New York, Inc. has introduced a continuous training program on installation and servicing techniques for principals or employees of appliance dealers, servicing agencies and master plumbers. The course is also for staff members and inspection personnel of New York City municipal departments and the New York State Public Service Commission. Meeting in intimate groups of 10 to 15 each, more than 400 have attended the sessions so far. The program will be kept going as long as there is a demand for it.

The classes review practices called for by the city code and the recommendations and standards of both American Standards Association and American Gas Association.

Discussion leaders, mostly foremen from Consolidated Edison's service bureau, use specially-designed laboratory apparatus and standard gas appliances, to demonstrate fuel characteristics.

William Nuttle (left) foreman of Consolidated Edison's service bureau, demonstrates carbon monoxide detector to City Commissioner Dominick F. Paduano, Department of Water Supply, Gas and Electricity, and Commissioner B. J. Gillroy, Department of Housing and Buildings, at opening of training program

Current statistics of the gas industry

● **Utility gas sales**—April, 4,791 million therms, down 10.1 percent from 5,344 million therms in March but up 7.1 percent over 4,473 million therms in April 1951.

● **Gas-fired central heating equipment**—May preliminary GAMA figures, 54,600 units, up 35.8 percent over 40,200 units in April and up 29.7 percent from 42,100 units in May 1951. (Breakdown: 32,000 gas-fired furnaces—forced warm air and gravity; 3,700 gas-fired boilers; 18,900 gas conversion burners.)

● **Oil-fired burner installations**—GAMA figures, 52,947 installations during month of May 1952.

● **Domestic gas range shipments**—Preliminary GAMA figures for May, 161,100 units, down 7.2 percent from 173,600 units in April and down 9.4 percent from 177,800 units in May 1951.

● **Electric range shipments**—GAMA figures, April, 80,400 units, down 26.1 percent from 108,800 units in March and down 40.6 percent from 135,400 units in April 1951.

● **Automatic gas water heater shipments**—Preliminary GAMA figures for May, 159,300 units up 1.53 percent from 156,900 units in April and down 4.8 percent from 167,400 units in May 1951.

● **Electric storage water heater shipments**—April GAMA figures, 58,400 units, down 0.18 percent from 59,500 units in March and down 34.1 percent from 88,600 units in April 1951.

Pete Smith sells gas to movie goers with a chuckle

a PAR activity

"Mealtime Magic" can easily mean promotion magic to gas utilities throughout the nation. "Mealtime Magic," a hilarious Pete Smith movie short, is the story of a dizzy housewife whose husband suddenly announces that he is bringing home guests for dinner.

The hub-bub which follows this announcement delights movie audiences—and the gas industry, for the star of the show is a very modern New Freedom Gas Kitchen. The kitchen features the newest gas appliances as well as an up-to-date pressure cooker. Gas utilities, local movie houses and retail stores thus have a chance to promote the picture in triple-threat advertisements to get the most out of the film.

Mats for local newspaper advertising at $1.55 for two, featuring either gas appliances only or pressure cooker and appliances, are being supplied by American Gas Association. For mats and further information about the picture, write to the Promotion Bureau, A. G. A. Headquarters, New York.

A. G. A. announces new publications

LISTED HERE are publications released by American Gas Association during May and June up to closing time of this issue of the MONTHLY. Information in parentheses indicates audiences for which each publication is designed.

Industrial and Commercial

● **1952 A. G. A. Commercial Gas School Lectures** (for commercial cooking representatives, gas equipment manufacturers, dealers or users). Lectures available in bound volumes from the Industrial and Commercial Gas Section, A. G. A. Headquarters, New York for $2.50.

Laboratories

● **Application of Automatic Ignition Systems to Commercial Gas Cooking Equipment, Bulletin 65** (for gas company commercial equipment servicemen, appliance designers, and controls manufacturers). Sponsored by the A. G. A. Laboratories, and PAR Research, the bulletin is available for $1.50 from A. G. A. Laboratories, Cleveland, and A. G. A. Heaquarters, New York.

● **Design Studies of Gas Deep Fat Fryers, Bulletin 66** (for commercial equipment designers, gas company servicemen). Sponsored by A. G. A. Laboratories and PAR Research. Available from the Laboratories, Cleveland, or A. G. A. Headquarters, for $2.00.

● **A Study of Table-Top Water Heaters, Research Report 1186-A** (for water heater manufacturers). Sponsored by PAR Research and the A. G. A. Laboratories. Available for 75 cents from the Laboratories, Cleveland or A. G. A. Headquarters, New York.

Natural Gas Department

● **Papers presented at the Natural Gas Department Spring Meeting,** May 12-13, 1952, Los Angeles, Calif., are available from A. G. A. Headquarters, New York, free.

PAR

● **PAR Briefs** (for gas industry executives). Prepared by the PAR Committee; available free from A. G. A. Headquarters, New York.

Operating Section

● **Printed papers presented at the Production and Chemical Conference,** May 26, 27, 28, 1952, New York, as well as the *Report of the Subcommittee on Coal Expansion* are available from the A. G. A. Operating Section, Headquarters, free.

Promotion

● **"Open the Door"** (for utilities and dealers). A gas refrigeration promotion which includes a 48-piece display kit and dealer broadside. Prepared by A. G. A., and available from the promotion department. Kits are priced at $7.15, and dealer broadsides can be purchased for 10 cents each.

● **"Fresher Than All Outdoors"** (for utilities and dealers). Clothes dryer promotion including display kit and dealer broadside. Prepared by A. G. A., and available from promotion department. Display kit costs $7.15; dealer broadsides, 10 cents each.

● **"Old Stove Round Up** (for utilities and dealers). Range promotion which includes display kit, dealer broadside. Prepared by A. G. A., available from Promotion Department, priced at $8.00 for the kit, 10 cents for each broadside.

Research

● **Selection of Oils for High Btu Oil Gas—Institute of Gas Technology Bulletin No. 12** (for all companies producing high Btu oil gas). Prepared by H. R. Linden and E. S. Pettyjohn; available from A. G. A. Headquarters or Institute of Gas Technology for $5.00.

● **Investigation of New Odorants for Natural Gas—Interim Report No. 1** (for natural gas distributing companies). Prepared by Nicholas Deininger and Russell W. McKinley, available from A. G. A. Headquarters for $2.00.

● **Manual for the Design of Box-Plenum Type Air Conditioning Duct Systems** (for gas companies, manufacturers, architects and equipment installers). Sponsored by the Committee of Domestic Gas Research; available from A. G. A. Headquarters for $1.00.

Statistics

● **Monthly Bulletin of Utility Gas Sales, March 1952 and April 1952** (for sales managers, statisticians, banks, investment houses, newspapers, appliance manufacturers). Available from A. G. A. Bureau of Statistics, free.

● **Quarterly Report of Utility Gas Sales, First Quarter, 1952** (for gas companies, security analysts, regulatory groups, college libraries). Available from the A. G. A. Bureau of Statistics, free.

LPGA meets in Chicago, elects Mabee president

SHATTERING ALL PREVIOUS records, the 1952 convention and trade show of the Liquefied Petroleum Gas Association attracted 2,500 persons to Chicago's Palmer House May 12-14.

Sparked by an opening address on the state of the nation by Senator Richard M. Nixon of California, the speaking program included talks by two prominent Washington officials who gave a quick view of the nation's LP-gas and LP-gas appliance supply situation.

Richard P. Walsh, director of the Natural Gas Production and Processing Division, Petroleum Administration for Defense, said the present productive capacity of LP-gas will meet the 1952 anticipated demand of some five billion gallons.

In spite of government cutbacks on raw materials, there is now an abundant supply of finished durable goods, Harry J. Holbrook, director, Consumer Durable Goods Division, National Production Authority, told the convention. It has taken about six years for sales of household appliances to get in line with consumer income and population growth. It took that long to make up the wartime shortages and the backlog is now filled.

"You must work closely and support your manufacturers," Mr. Holbrook contended. "Your attendance here is proof of the tremendous importance of your industry. Being a new industry you have many new markets available to you and your sales potential is great. Gas appliance manufacturers have great plans for your markets. During World War II we heard very little about LP-gas in Washington. Now it is a major topic of conversation of all gas appliance and equipment manufacturers. Now is time to plan for the future."

Tracing the rapid recent growth of the LP-gas industry, W. S. Lander, the Suburban Rulane Gas Co., Charlotte, N. C., and LPGA president, said that in 1951, just 39 years after the first domestic installation was made, the number of installations skyrocketed to a record figure in excess of 8 million. "The amount of fuel marketed last year," he added, "was over four billion gallons."

Other speakers at the convention included Arthur H. Motley, Parade Publication, Inc., New York, N. Y.; Guy C. Kiddoo, First National Bank of Chicago; William H. Brooks, Liquefied Petroleum Gas Tank Fabricators Committee, Washington, D. C.; John Christensen, Hamilton Manufacturing Co., Two Rivers, Wis.; J. G. Dierkes, Incineration Division, Bowser, Inc., Cairo, Ill.; S. J. McLagen, Suburban Propane Gas Corp., Whippany, N. J.; I. W. Patterson, General Gas Corp., Baton Rouge, La., and Amos Abbott, Northern States Power Co., Minneapolis.

At the concluding session, Foster N. Mabee, president, Colorado Natural Gas & Fuel Co., Denver, Colo., was elected president succeeding W. S. Lander of the Suburban Rulane Gas Co., Charlotte, North Carolina. Prominent in the Liquefied Petroleum Gas Association for 13 years, Mr. Mabee has been a director since 1940 and was first vice-president last year.

Other officers named include C. M. Ambrose, Jr., Liquefied Gas Corp., Seattle, first vice-president; Frank T. Carpenter, United Petroleum Gas Co., Minneapolis, Minn., second vice-president; Walter H. Miller, Dri-Gas Corp., Chicago, treasurer; Howard D. White, Chicago, executive vice-president, and Arthur C. Kreutzer, Chicago, secretary and vice-president.

Six section chairmen were also elected by LPGA. They are I. W. Patterson, General Gas Corp., Baton Rouge, La., chairman, marketers section; George H. McFadden, Ohio Foundry & Manufacturing Co., Steubenville, Ohio, chairman, appliance manufacturers section; Robert Lisk, Fisher Governor Co., Marshalltown, Ia., chairman, equipment manufacturers section; George W. Bach, Skelly Oil Co., Kansas City, Mo., chairman, producers section; Roger De Lacy, City Gas Co., Antigo, Wis., chairman, utilities section, and Al Alice, Delta Tank Manufacturing Co., Baton Rouge, La., chairman, international section.

At the same session, Mercer G. Farrar, chief engineer of the Pyrofax Gas Co., New York, N. Y., a division of Union Carbide and Carbon Corp., was honored with the LPGA Distinguished Service Award. Walter F. Verkamp, president, The Verkamp Corp., Cincinnati, Ohio, and a past president of LPGA, made the presentation at the final luncheon of the three-day session.

The award is given only once each year for outstanding contributions to the association and the LP-gas industry. Mr. Farrar has served as chairman and member of many of its committees and is also active in the American Gas Association, Compressed Gas Association and National Fire Protection Association. Last year he was elected a life member of the American Society of Refrigerating Engineers.

Associated organization activities

Pacific gas men to hold convention in September

THE 59TH ANNUAL Pacific Coast Gas Association convention will be held September 3-5 in Los Angeles.

The program is now being planned by F. M. Banks, president and general manager of Southern California Gas Co., Los Angeles, who is chairman of PCGA's program committee. The program will be focused on merchandising, a subject of critical importance.

According to tentative plans, the first event of the convention will be the annual meeting of the manufacturers' section on Wednesday morning. Also planned is a Wednesday noon luncheon at which F. S. Wade, chairman of the board, Southern California Gas Co., Los Angeles, will preside, and association President W. M. Jacobs, will make his address. At a general session on Wednesday afternoon, reports from the various committees will be heard and addresses will be made by Frank C. Smith, vice-president, American Gas Association, and Louis Ruthenburg, president, Gas Appliance Manufacturers Association.

Anne Whipple, home economist, Seattle Gas Co., will preside at the home service breakfast scheduled for Thursday morning.

At the Thursday morning general session, the subject of merchandising and selling in the present day market will be discussed by several speakers. President W. M. Jacobs will preside.

A general luncheon is planned for Thursday noon, with F. M. Banks as chairman. Problems connected with rate making, service, and customer relations will be discussed at Thursday afternoon's general session, and the final general session on Friday morning will be devoted to sales and personnel problems.

A full schedule of social events, including a manufacturers' friendship hour, a dinner and ball are being planned for evenings. There will be special entertainment for ladies, and the golf tournament will be the concluding event.

Pennsylvanians name Gordon Jones president

GORDON M. JONES was elected president of the Pennsylvania Gas Association when almost 500 natural and manufactured gas men met in Galen Hall, Wernersville, Pa., May 13-15. Mr. Jones is sales manager of the United Gas Improvement Co., Philadelphia. He succeeds W. E. L. Irwin, district manager of Philadelphia Electric Co., Ardmore, who completed his administrative year as president at the meeting.

Other elections included Andrew S. Morgan, manager of Lancaster County Gas Co., first vice-president; J. Henry Long, Philadelphia Electric Co., second vice-president; John A. Frick, Allentown-Bethlehem Gas Co., third vice-president. R. W. Uhler, Lebanon Valley Gas Co. was named secretary, to succeed William Naile who died recently. James A. Schultz, Reading Gas Co., was re-elected treasurer.

The problems under discussion during the meeting pertained to the accounting, customer-employee relations, distribution and

(Continued on next page)

sales promotion of fuel gas. Robert S. Quig, Ebasco Services Inc., New York, presented the problems relative to the use of mixed, natural and manufactured gas. Charles H. Frazier, formerly of The Philadelphia Gas Works Co., now procurement commissioner of the City of Philadelphia, in a paper entitled "Gas Production Meets the Challenge," described the methods by which the merger of manufactured gas with natural gas is meeting present-day demands, particularly that for space heating.

W. S. Bunnell, operating manager, Consumers Gas Co., Reading, presented the reasons for and the suggested solution of electrolysis damage on underground structures. Sales promotion and its various phases was discussed by Sol W. Weill, eastern manager of the Geo. D. Roper Corporation. Selling automatic gas ranges in Kansas and how their methods could be locally applied was described by Fred Karr, manager, The Gas Service Co., Topeka. In an address by Russell T. Giblin of the sales craft clinic, interesting and useful suggestions on the art of handling people were presented.

Appliance Manufacturers meet in Colorado

AT THE 17TH ANNUAL meeting of Gas Appliance Manufacturers Association in Colorado Springs, May 21-23, James F. Donnelly was elected 1952-53 president. Mr. Donnelly, assistant general manager of A. O. Smith Corp's Kankakee, Ill. division, succeeds Louis Ruthenburg, chairman of the board, Servel, Inc.

At the same time, Sheldon Coleman, president of The Coleman Co., Wichita, Kansas, was elected first vice-president; T. T. Arden, vice-president of Grayson Controls Div., Robertshaw-Fulton Controls Co., Lynwood, Calif., was named second vice-president; and Lyle C. Harvey, president of Affiliated Gas Equipment, Inc., Cleveland, was re-elected treasurer.

A highlight of the GAMA meeting was a forecast on material allocation by Henry H. Fowler, administrator of the National Production Authority. Speaking at the traditional President's Dinner, Mr. Fowler gave an up-to-the-minute report on the outlook for controls and decontrols for the year.

Another feature on the convention agenda was the dealer relations session, emphasizing selling and merchandising techniques. H. D. Bissell, director of merchandising and advertising for Minneapolis-Honeywell Regulator Co., discussed methods of upgrading marketing techniques in the appliance industry. Rowland Jones, Jr., president of American Retail Federation, reviewed "retailing's role in a free economy."

Following an analysis of the association's finances by Treasurer Lyle C. Harvey and a report of the nominating committee by E. Carl Sorby, vice-president, Geo. D. Roper Corp., the opening session of the convention heard Arthur S. Goldman, director of marketing and research for the Architectural Forum edition of the *Magazine of Building*, describe the recent relaxation of mortgage requirements as opening "a new multi-million-dollar market for gas appliances and equipment.

The same session viewed a graphic report of activities during the first year of GAMA's public relations and sales promotion program. The report, delivered by Gerry Swinehart, president of Carl Byoir & Associates, GAMA public relations counsellors, stressed successful efforts to build gas industry prestige, improve government relations, stimulate better merchandising, institute a dealer training program, and sell gas and gas appliances to the industry's various publics.

On the first evening of the three-day meeting, Frank C. Smith, president of the Houston Natural Gas Co., in a "Memo to the Chief Executive," urged gas utilities to pick up the year-round gas load and service to homeowners represented in new appliances such as air conditioning systems, clothes dryers and incinerators.

Describing the fast-growing, billion-dollar gas appliance industry as "traditionally a reliable barometer of business ups and downs," Mr. Ruthenburg pointed to five factors which, he said, will contribute to its even greater expansion in 1952. These include: new extension of natural gas service; a large remaining potential for LP-gas, despite a four-fold increase in the use of this fuel since 1941; continuation of a 10-year trend which shows a 54.9 percent increase from 19,146,000 to 29,662,000 residential gas customers; a coordinated program of advertising and promotion by A.G.A., GAMA, dealers and utility companies, involving an outlay of $10 million this year; and a big replacement market for fully automatic gas ranges, water heaters and refrigerators, more than 9,625,000 ranges alone being over 12 years old.

Charles E. Bennett, president, The Manufacturers Light & Heat Co., Pittsburgh, and American Gas Association, praised GAMA efforts to woo public favor for gas. He urged gas industry executives to continue raising their sights and to "be more concerned with where we are going than where we have been." By working together, the various elements in the gas industry, he added, have lifted gas to sixth place among major American enterprises.

The annual marketing symposium foresaw a year of intensive marketing activity, utilizing already established statistical procedure as a basis for publication, beginning in 1953, of a statistical gas-appliance year book.

Donald R. Meckstroth, chairman of GAMA's general marketing committee, outlined the need for statistics to establish market patterns and provide yardsticks by which manufacturers can measure their own selling performance.

James F. Donnelly

In a color slide presentation titled "Marketing Spots Before Your Eyes," vice-chairman-elect of the marketing committee, A. F. Smith, A. O. Smith Corp., dramatized the thesis that "markets are people" by tracing the living, visiting and buying habits of families in small communities.

Julius Klein, president, Caloric Stove Co. and chairman of the "CP" manufacturers group, discussed a new nationwide, sales training program designed to upgrade gas range sales. J. P. Hutchinson, sales manager, Lawson Manufacturing Co. and chairman of GAMA's gas water heater division, demonstrated the use of a sound-slide sales training film titled "The Golden Stream" which rounds up a variety of proved sales techniques employed by jobbers, wholesalers, utilities and large retailers in selling water heating equipment.

Earlier in the GAMA meeting, E. Carl Sorby, Geo. D. Roper Corp., had proposed adoption by the entire gas range industry of a broad-based promotional program under the general heading of "Operation Sales." Cited as the greatest promotional effort in the long history of the gas range industry, the program was approved unanimously by 17 manufacturers representing more than 60 percent of the nation's gas range production.

At a general session, meritorious service awards were presented by Mr. Ruthenburg to 17 industry leaders for their contributions to the progress of the gas appliance industry and the association.

Establishment of a Distinguished Service Award "for promotion and advancement of industrial gas utilization" was announced by Mr. Campbell. Recipient of the first of these awards, selected unanimously by the industrial gas equipment division of GAMA, was Frederic O. Hess, who preceded Mr. Ruthenburg as GAMA head.

Wisconsin organization elects Brown president

NEW OFFICERS of the Wisconsin Utilities Association were installed in Milwaukee on May 15, at a ceremony in which executives of gas, electric and transportation companies participated.

Theron Brown, vice-president and general superintendent of the Madison Electric Co. is the new president of the association, succeeding E. H. Cotton, Northern States Power Co., Eau Claire.

George A. Donald, Ashland, president of the Lake Superior District Power Co. is the new vice-president, succeeding Mr. Brown.

Harold P. Chamberlin, assistant secretary and assistant treasurer, Wisconsin Electric Co., Milwaukee, is treasurer. He succeeds I. P. Steybe, also of Milwaukee.

The new association president is a graduate of the University of Wisconsin. He entered the utility business as a part time student employee of Madison Gas & Electric Co. while at the University, and received several promotions before achieving his present position.

Southern Gas Association meets in Galveston

THE SOUTHERN GAS ASSOCIATION highlighted its 44th annual convention at Galveston, April 28-30 by electing John H. Wimberly, executive vice-president of Houston Natural Gas Corp., as president. He succeeds L. L. Dyer, comptroller of Lone Star Gas Co., Dallas.

Mr. Wimberly, a graduate of the University of Texas, started his career as chief clerk in Houston Natural Gas Co.'s accounting department in 1924. He was named auditor in 1931, treasurer and director in 1940, vice-president and treasurer in 1945 and executive vice-president in 1947. He was elected a director of Southern Gas Association in 1947 and was general convention committee chairman for the 1950 Galveston meeting. He was elected second vice-president in 1950, first vice-president in 1951. He is also chairman of this year's membership committee.

Other newly elected S.G.A. officers are H. K. Griffin, Mississippi Gas Co., Meridian, first vice-president; C. I. Wall, West Texas Gas Co., Lubbock, second vice-president. Re-elected were J. L. Campbell, New Orleans Public Service Inc., secretary; Kyle H. Turner, Atlanta Gas Light Co., assistant secretary; and H. V. McConkey, Southern Union Gas Co., Dallas, treasurer. C. H. Zachry, Southern Union Gas Co., is chairman of the advisory council, and vice-chairman is J. C. Flanagan, United Gas Corporation.

New directors include Hansell Hillyer, South Atlantic Gas Co., Savannah; William D. Mastin, Robertshaw Fulton Controls Co., Chattanooga; E. R. Cunningham, Texas Eastern Transmission Corp., Shreveport; Willard G. Weigel, Lone Star Gas Co., Dallas; and Duncan Crawford, Atlanta Gas Light Company.

New section chairmen are Louis G. James, Lone Star Gas Co., accounting; C. L. Perkins, El Paso Natural Gas Co., transmission; H. M. Rogers, Texas Eastern Transmission Corp., employee relations; R. A. Metzge, United Gas Corp., distribution; and J. W. Lea, Atlanta Gas Light Co., sales.

Southern Gas Association executive committee meets in Houston. Seated, left to right: Carl H. Horne, Rheem Manufacturing Co.; W. L. Woodward, Zenith Gas System, Inc.; Dean A. Strickland, United Gas Corp.; J. H. Wimberly, Houston Natural Gas Corp.; President L. L. Dyer, Lone Star Gas Co.; H. K. Griffin, Mississippi Gas Co.; C. H. Zachry, Southern Union Gas Co.; W. H. Ligon, Nashville Gas Co.; and H. C. Webb, Oklahoma Natural Gas Co. (Standing, left to right): J. L. Campbell, New Orleans Public Service, Inc.; A. L. Roberts, Texas Gas Transmission Corp.; Dale E. Frieden, Zenith Gas System, Inc.; H. V. McConkey, Southern Union Gas Co.; E. L. Henderson, United Gas Corp.; R. A. Puryear, Jr., Alabama Gas Corp.; A. B. Parker, Hardwick Stove Co.; Murray S. Hitchcock, American Meter Co., Inc.; Charles K. Oxford, Gas Light Co. of Columbus; Harold F. Taylor, Oklahoma Natural Gas Co.; Charley Lockhart, Jr., Bryant Heater Div., A.G.E., Inc.; Charles F. Stubbs, Mississippi Gas Co.; J. O. Jackson, United Gas Corp.; L. A. Farmer, Northern Oklahoma Gas Co.; V. H. Luneborg, Arkansas Louisiana Gas Co.; H. R. Derrick, Alabama Gas Corporation. Over 1,470 delegates attended conference

R. B. Brown

former A. G. A. president and retired president of the Milwaukee Gas Light Co., died at the age of 80 on May 21 in Bellingham, Washington. He had been living for several years in Orcas Island, Puget Sound.

Mr. Brown retired after 50 years of industry leadership in April, 1939. He was born in New Jersey and was an alumnus of Lehigh University. His first utility employment was with the East River Gas Co., New York, after which he joined the Newark (N. J.) Gas Company. Later he served as general superintendent of the American Gas Co.; then as engineer, general manager, vice-president and president of Milwaukee Gas Light Company.

As a consulting engineer, Mr. Brown built gas plants in Lowell, Worcester, Salt Lake City, Rockford, Chester, St. Louis and East St. Louis.

During his long career, Mr. Brown was active in both national and state association endeavors. An American Gas Association director for 10 years, he served as Association vice-president and then as president in 1923.

He was president of the Wisconsin Gas Association in 1910; vice-president and director of the American Gas Institute and first president of the A.A.I. Calorimetry Committee.

He was also a member of the A.S.M.E.; Wisconsin Utilities Association; American Institute of Illuminating Engineers; and the Milwaukee Society of Engineers.

Surviving are his widow and four daughters.

Thomas F. Whitty

superintendent of the Queens section, The Brooklyn Union Gas Co., who had served the utility for 43 years, died on May 17 at the age of 58.

Mr. Whitty was a member of American Gas Association. He is survived by his widow, Anna; a son, Thomas J.; three brothers and a sister.

Samuel E. Claney

personnel director, Equitable Gas Co., Pittsburgh, died suddenly at his home on April 22. He was 61 years of age.

Mr. Claney had entered the employ of Equitable's predecessor, The Philadelphia Co. and Subsidiary Companies in 1912 as a stenographer.

After receiving several promotions, he was transferred to the personnel department in 1927, and was appointed personnel director in May, 1950.

He was a member of American Gas Association, National Office Management Association, and Pennsylvania Natural Gas Association.

Mr. Claney is survived by his widow, Mrs. Mildred Boden Claney, and two daughters.

William J. Serrill

retired head of the planning department, United Gas Improvement Co., Philadelphia, died at the age of 89 in Bryn Mawr, Pennsylvania. Mr. Serrill had joined the utility in 1885, two years after his graduation from the University of Pennsylvania, and held various executive posts during his career, which ended in 1929.

He had been president of the American Standards Association and of the Illuminating Engineering Society of New York.

Edward H. Maurer

retired assistant treasurer of American Gas and Electric Co., New York, died on May 20 at the age of 76.

He is survived by his widow, Mrs. Zella G. Marsh Maurer; a daughter, Miss Lydia S. Maurer; a sister and a brother.

Midwestern utility subsidiary becomes division

THE Northern Natural Gas Co., Omaha, has dissolved its wholly owned subsidiary, Peoples Natural Gas Co., and has absorbed it as a retail division of the company.

John Merriam, president of Northern, said the aim of the action is to further simplify the company's corporate structure.

John F. Merriam

Ray Harrison

W. L. Shomaker

Donald Sedgewick

Earle Clark

Ray Harrison, formerly vice-president and general manager of Peoples, has been elected president of the new division.

At the same time, it was announced that W. Lawrence Shomaker, vice-president in charge of sales, had his responsibilities broadened to include public relations. He will work with John Hanley, vice-president in charge of gas supply and President Merriam on matters concerning gas supply procurement.

Donald L. Sedgewick, assistant superintendent in charge of gas sales, has been promoted to director of the wholesale marketing department. Earle Clark has been named public relations director, to work under Mr. Shomaker.

Personal and otherwise

A.G.A. director serves in civic post

LELAND B. BONNETT, vice-president, The Consolidated Edison Co. of New York, Inc., and a director of A. G. A., has been elected president of the Brooklyn Bureau of Social Service and Children's Aid Society. He succeeds Mrs. Mary Childs Draper, a prominent philanthropist and civic leader, who has served as president of the agency since 1937.

Mr. Bonnett, a resident of Brooklyn for many years, is a graduate of Syracuse University. He is a fellow of the American Institute of Electrical Engineers; a member of the American Society of Mechanical Engineers and the New York State Society of Professional Engineers. Mr. Bonnett also serves as vice-president of the Engineers Club of New York.

The Brooklyn Bureau of Social Service is one of the nation's oldest non-sectarian welfare agencies. It helps families, the handicapped and blind, orphans and unadjusted boys.

L. B. Bonnett

Lavers appointed

W. DOUGLAS LAVERS has joined Ebasco Services Inc. as construction manager. Mr. Lavers will be responsible for construction projects outside of the United States.

Mr. Lavers comes to Ebasco from Union Carbide and Carbon Corp. where he was plant manager of the electromagnetic plant for the separation of uranium isotopes at Oak Ridge, Tennessee. Prior to that he was engaged in construction of the Norris, Chickamauga, Kentucky and South Holston dams.

Mr. Lavers is a graduate of Northeastern University, Boston. He is an associate member of the American Society of Civil Engineers.

Oates replaces Smith as A.G.A. director

JAMES F. OATES, JR., chairman and chief executive officer of The Peoples Gas Light and Coke Co., Chicago, has been elected a director of American Gas Association. Mr. Oates succeeds Frank C. Smith, president, Houston Natural Gas Corp., who has been named vice-president of A. G. A. for the remainder of the Association year. (See May 1952 MONTHLY, p. 3.)

Mr. Oates is a prominent Chicago attorney and civic leader. He is a graduate of Princeton University and Northwestern University Law School. A former chairman of the utilities section, American Bar Association, he is also a member of the Chicago and Illinois Bar Associations.

In A. G. A. Mr. Oates serves in the Finance and PAR Review Committees and is vice-chairman of the Promotion, Advertising and Research (PAR) Committee.

James F. Oates, Jr.

Baltimore names Albrittain

MASON C. ALBRITTAIN has been appointed general sales manager of Consolidated Gas Electric Light and Power Co. of Baltimore. He will be responsible for all sales and promotional activities of the company. Mr. Albrittain has served as general manager, industrial and commercial sales and promotion since 1949.

Mr. Albrittain is a member of American Gas Association.

Texas Gas Selects Rader and Dufendach

FRANKLIN K. RADER has been named supply contract representative, and Paul E. Dufendach has been selected assistant to the chief engineer of Texas Gas Transmission Corporation.

Mr. Rader will assist Vice-President B. C. Adams, Jr., with gas supply contract negotiations and related matters. A graduate of Southern Methodist University and Harvard Law School, he served with the Navy during the war as a fuel officer.

Mr. Dufendach will aid chief engineer H. L. Stowers with engineering matters before the FPC, and with special engineering and economic studies. He is a veteran of 20 years in the natural gas business, and before joining Texas Gas, he was employed by Louisville Gas and Electric Co., and Kentucky-West Virginia Gas Company. He is a graduate of Rose Polytechnic Institute and the University of Cincinnati.

Philadelphia Gas Works vice-president retires

JOHN V. POSTLES, vice-president in charge of production, The Philadelphia Gas Works Co., retired on June 1, following 38 years of service with the utility. Mr. Postles was graduated in civil engineering from the University of Delaware, and upon graduation joined the construction department of the United Gas Improvement Company. He remained there until 1914. At that time, he was transferred to the Philadelphia Gas Works Co. as assistant foreman in its distribution department. Subsequently, he served in the appliance division and later became engineer in the construction department. In 1918 he was made assistant general foreman and in 1923, assigned to the engineer of works office. Here he was responsible for many engineering projects, with the result that he was made special assistant to the vice-president in charge of production. In 1938 he became engineer of works and in 1947 was elected vice-president in charge of production, the position he held at the time of his retirement.

Mr. Postles is a registered professional engineer in Pennsylvania. He is active in the Operating Section and Manufactured Gas Department of American Gas Assoication. This year he is serving on the Manufactured Gas Department's Managing Committee.

Ryan follows Betz in public information post

JOSEPH N. BETZ has been named manager of the commercial division, The Manufacturers Light and Heat Co. and other Pittsburgh Group Companies of The Columbia Gas System. Thomas L. Ryan has been appointed to succeed him as director of information.

Mr. Betz came to Pittsburgh to join the main sales office, after serving the company in Olean, N. Y., and Cumberland, Maryland. Later he was named director of information. Recently, when the company increased its sales promotion program, concentration was placed on domestic and commercial gas equipment sales through dealers. Mr. Betz will have charge of the commercial sales part of the program.

Mr. Ryan has been news bureau chief of The Ohio Fuel Gas Co., in the Columbus Group of the utility system. A Navy veteran, he is a journalism graduate of Ohio University.

PAR committee reports

(Continued from page 12)

studying the physical and physico-chemical properties of mixtures of methane with nitrogen and of methane with ethane. The work on the nitrogen-methane mixtures is complete and a bulletin summarizing this data, and including Mollier charts, is in preparation.

Dynamic and comprehensive prorams of promotion and advertising were detailed in the report of the General Promotional Planning Committee.

A. G. A. domestic, industrial and commercial exhibits "played" to audiences in excess of 55,000 at four 1952 national trade shows, in the restaurant, appliance retailing, foundry and home building fields.

The Hollywood operation has been expanded and two New Freedom Gas Kitchens installed in strategic locations where a large number of television shows are currently being produced. Four more kitchens are scheduled for installation in the near future. A current project being supervised by the A. G. A. Hollywood Bureau is the production of 12 television shorts, each 20 seconds long, which will combine fast moving animation with live sequences built around gas appliances.

A series of hard-hitting merchandising programs, designed to aid the utility and the appliance dealer, were conducted, or were in preparation. Included in the first quarter were the concurrent clothes dryer and water heater campaigns, the Spring Style Show of Automatic Gas Ranges, followed by the combined house heating, air conditioning and incinerator campaign and, currently by the gas refrigerator campaign.

Present reports indicate that, in spite of generally poor business conditions, the automatic water heater campaign was successful. Ten full page ads in national magazines, starting with a full page ad in *Life* on February 11, featured the slogan, "Ask Your Plumber," since plumbers account for 57.6 percent of the water heater sales. For the first time, A. G. A. offered a complete kit of tie-in materials including a large 60 inch window display piece with banner, pennants, window cards, counter cards and price tags.

The clothes dryer campaign, featuring the slogan, "Fresher Than All Outdoors," was beautifully tied in with three full-page ads in national magazines and another complete campaign kit was offered manufacturers and utilities.

The Spring Style Show was supported by full-page ads in *Life, Saturday Evening Post* and *Woman's Home Companion.* An elaborate 41-piece display kit built around a 60 inch reproduction of M.G.M. star Kathryn Grayson, met a good response from coast to coast.

The April range advertising introduced a new and fresh appeal. Entitled "We Lead Double Lives," the advertising featured pictures and testimonials of women who keep house and are employed professionally. Copy emphasized the fact that the modern woman needs the last word in automatic gas range.

The A. G. A. March, April and May "Proof of Profits" campaign received its first official announcement in restaurant and hotel magazines with the publication in the March issues of *Chain Store Age* and *Fast Food Service* of a two-page ad entitled "Here's Proof of Profits . . . They All Cook With Gas at Miami Beach." This ad is the first of a series demonstrating the predominating popularity of gas fuel in the restaurant and hotel fields.

Preparations for a hard-hitting refrigeration campaign entitled "Open the Door," to be backed by spectacular national advertising, was reported. Marked success has been gained by the New Freedom Gas Kitchen Bureau in the promotion of the Heart Saver Kitchen. Much of this is due to having been able to interest the editors of *Woman's Home Companion* in running a full-color picture and text feature spread, and to the increased promotional activity in the field by the American Heart Association. The PAR sound slide film, "Heart of the Home," is selling in increasing numbers and many utilities have installed their own version of this important energy-saving kitchen.

The Commercial Gas School, May 5-9, was described as one of the best yet conducted. Subjects ranged from kitchen planning and layouts to competitive rate computation.

As the initial step in formulating a Dealer Merchandising Program, a field check was made of dealer selling techniques. The information thus gathered is the basis of a book entitled "Inside Selling Techniques" which will be a part of the portfolio scheduled for mid-July publication.

Work was instituted on the development of teaching materials that will carry the story of gas to the thirty-one million school children in the United States.

Utilization

(Continued from page 9)

by entire industries and by individual companies. "Products born in research and developed in engineering," he concluded, "provide ammunition for the sales department."

For once in his twenty-two years in A. G. A. utilization research, genial cigar-smoking Eugene D. Milener said he was "speechless." The remark was prompted by a surprise presentation of a gift from his friends in utilization research. Mr. Milener, who now is secretary of A. G. A.'s Natural and Manufactured Gas Department, was given a Longines wrist watch planted in a cigar-filled humidor. The presentation was made by Hale A. Clark, chairman, A. G. A. Committee on Industrial and Commercial Gas Research and industrial engineer, Michigan Consolidated Gas Co., Detroit, who later presided at the afternoon session.

About $36,000 worth of A. G. A. commercial cooking research was reviewed by W. D. Relyea, assistant to sales manager, Public Service Electric and Gas Co., Newark, N. J. Foremost among these he named the gas deep fat fryer evolved from A. G. A. Laboratories' "ivory tower" thinking, followed by a successfully demonstrated "prototype" model which convinced the gas industry of its great merit.

Report ignition studies

Other current commercial gas research projects included an engineering analysis of methods and devices to provide gas equipment—particularly ovens—with safe, practically fool-proof, automatic lighting devices; development of factors leading to more effective application of heat to deck bake ovens; engineering analysis of automatic controls for commercial cooking equipment, and a study of methods of heat applications to commercial range heavy duty top sections.

Now the gas industry has the answer to the "cold range" issue often raised by the electric range competition, said Edgar A. Jahn, A. G. A. assistant utilization engineer, who discussed the "PAR Range Ignition Program." A field test program, initiated early in 1950, gradually is nearing its ultimate objective. That goal, said Mr. Jahn, "is to make available to the entire gas industry an automatically ignited range that will consume little or no energy when not in use."

From September 1, 1950 to December 31, 1951, he said, there were 1,001 ranges involved in the field test program. "One purpose of the test program," he stressed, "is to ferret out trouble spots so that they can be corrected." He noted that "most of the important troubles have been or will be eliminated by the manufacturers now that they are known and that two-thirds of the field reports received indicated no complaint or trouble."

At a special clinic a quartette of speakers discussed the role of gas company utilization laboratories. A utility and its customers benefit directly, said W. D. Egan, utilization testing engineer, The Peoples Gas Light and Coke Co., Chicago. Others gaining by a utility's laboratories, he added, are neighboring utility companies without testing facilities, and appliance manufacturers. Moreover, he included A. G. A. Laboratories and appliance dealers and installation contractors among others deriving benefits. He stated that his laboratories "go beyond A. G. A. requirements, particularly in regard to safety and serviceability of appliances . . . because we realize their requirements are minimum standards" which must apply to the entire country.

Further local advantages were listed by Arthur E. Stack, laboratory superintendent, Washington (D. C.) Gas Light Company. With respect to the gas industry, he said, a utility laboratory is concerned with establishment and maintenance of standards in connection with utilization. He summed up a utility laboratory's role in relation to the gas industry, in four C's: "Cooperation—Consideration (implying the broader sense of investigation and research)—Constructive Criticism—and Contribution."

"Obviously, a gas company utilization laboratory is operated primarily for the benefit of the utility," said Harry L. Warren, supervisor, appliance testing laboratory, Southern California Gas Co., and Southern Counties Gas Co., of California. "The degree of benefit derived by the industry, as a result of the work of a gas company utilization laboratory," he went on, "is proportional to the degree of enlightenment of the self-interest of the utility." He added that his laboratory also makes special investigations, partly to help solve specific local utility problems and partly of general nature, hence, industrywide interest.

"The utility laboratory is a service of the utility and is primarily concerned with the utility's problems," said C. C. Winterstein, manager, Appliance Laboratory, The Philadelphia Gas Works Company. "If benefits accrue from its investigations and studies, it could be expected that they would be ultimately revealed through one channel or another to others having the same problem." He further observed that multiple laboratories in a single utility offer broader resources and facilities, such as production, chemical, and physical laboratory activities.

"Comfort Heating with Continuous Air Circulation" was discussed by R. W. Roose, research assistant professor of mechanical engineering, University of Illinois. This is part of an A. G. A. PAR Plan research project through the Committee on Domestic Gas Research under a cooperative agreement with the National Warm Air Heating and Air Conditioning Association and the Engineering Experment Station at the University.

Because room-air temperature is the major item of comfort affected by burner and blower operation in any forced warm-air heating system, said Professor Roose, the discussion of comfort was limited to this phase. Since a continuous heat input to a given room should be so regulated to offset room heat loss, this constant operation can be maintained by the flexibility of gas-fired forced warm-air furnaces, he said.

Flexibility of such operation is a key factor to be considered here, Professor Roose added. Thus, he said, heat is supplied continuously to satisfy the various load demands. "From results obtained with both continuous and intermittent blower operation," he concluded, "the continuous type of blower operation produced the most desirable control of room-air temperatures."

"National Defense and Future Air Power" was discussed by Brigadier General John Walker Sessums, Jr., United States Air Force, the second day's luncheon speaker. He was introduced by J. A. Hughes, general manager, Bryant Heater Division, Affiliated Gas Equipment, Inc., Cleveland.

"Research is our common interest," said the general who is deputy for development, headquarters, Air Research and Development Command, Baltimore. He drew an analogy between A. G. A.'s research which is designed largely for our comfort in peace, while Air Force research is keyed primarily to our safety and defense in war. In effect, he said,

one type of research is to keep ahead of competitors while the other is aimed at keeping ahead of enemies. He estimated that roughly one-half billion dollars is being spent annually for Air Force research at nine centers across the nation.

Gas men perked up their ears when General Sessums remarked that a U. S. Sabrejet flashing into the "wild blue yonder" at Korea burns about 175 million Btu hourly. He estimated that a bomber burns more than a billion Btu hourly.

Four panel sessions reviewed all research projects being conducted under the A. G. A. PAR Plan Domestic Gas Research Program. A report on the Technical Advisory Group for Heating and Air Conditioning Research, of which Dr. F. E. Vandaveer, director, laboratories, The East Ohio Gas Co., Cleveland, is chairman, was given by Keith T. Davis of Bryant Heater Division, Affiliated Gas Equipment, Inc. This group favored doing research to stimulate further research and development by manufacturers. Also discussed were stainless steel, aluminumized steel and ceramic coatings for gas appliances. They also discussed improved year-round air conditioning with gas, and reverse flowing heating through plenums.

Pilot design and construction research being conducted at The Peoples Gas Light and Coke Co., Chicago, will be followed by similar tests on other gases around the country, said K. H. Flint, gas engineer, Steel Division, Borg-Warner Corp., Kalamazoo. He reported on the A. G. A. Technical Advisory Group for General Utilization Research, of which Dr. William R. Hainsworth, Rheem Manufacturing Co., Whittier, Calif., is chairman. He also commented on projects on design factors to provide burner flexibility without adjustment when operated on various base and peak load gases, and effects of gas composition on flame stability of appliance burners.

In line with the keynoter's theme, the group expressed the belief that more fields for future research were opened in an ever-widening path, particularly in the study of more effective use of secondary air to support atmospheric gas burner flames. They also reviewed work on combustive characteristics of fuel gases.

Comprehensive knowledge and appraisal of all cooking methods are necessary for the sound growth of cooking with gas, reported Howard A. Brown, chairman, A. G. A. Technical Advisory Group for Domestic Cooking Research, and assistant superintendent, electric distribution department, Rochester (N. Y.) Gas and Electric Corporation. He said an experimental oven, built for measuring all factors affecting baking, will yield factual data for oven design.

Considerable data are available on oven door leakage of contemporary ranges, he noted, along with some suggested methods of door sealing. Other data are available, for use in domestic range design, on grate heights and insulating materials to block conductive heat transfer and isolate top venting from range top and burner box sections, Mr. Brown concluded.

An engineering study now is available on factors underlying table top water heater performance, said C. L. Elliott, chairman, A. G. A. Technical Advisory Group for Domestic Gas Water Heating Research, and supervisor, Residential Heating Division, Gas Commercial Department, The Cincinnati Gas and Electric Company. He called attention to proposed tests being conducted to learn corrosive effects of changes in heat input, water shortage, temperature and draw-off rates in automatic-storage water heaters.

He said many factors will be investigated and tabulated on a number of contemporary water heaters with a view towards analyzing burner operation in water heater environment, based on actual burners installed in an appliance. Various engineering groups, he added, are engaged in a joint study of temperatures and pressure relief devices to suggest recommendations for a national code of which safety devices are needed and how they should be applied.

At this session, Robert C. Weast, associate professor of chemistry, Case Institute of Technology, Cleveland, urged that research data possessed by manufacturers and utilities be made available to A. G. A. to hasten progress on projects, to avoid duplication and to encourage more profitable use of A. G. A. research funds and facilities to benefit the entire gas industry.

Even as meter readers of The East Ohio Gas Co. are reading meters, they are making periodic safety inspections, said Kenneth Wood, assistant superintendent, The East Ohio Gas Co. which serves the great and growing Cleveland area. Although he did not put forth the plan as being new, he proffered it for industry interest and review. East Ohio, he said, makes other public safety checkups in the field and in public buildings.

"In our system of 650,000 meters," said Mr. Wood, "the cost for this inspection program will run between $70,000 and $75,000 yearly . . . but we feel the cost is not excessive for the gains accomplished." Since inspections are being made while meters are being read, he said, 25 percent of this cost is charged to routine meter reading.

"Combustion Characteristics of Fuel Gases," were discussed by Joseph Grumer, physical chemist, U.S. Bureau of Mines, Pittsburgh. Several years ago, he recalled, the flame-research laboratories of the Bureau of Mines discovered the fundamental law of flash-back and blow-off. This was followed by basic research of entrainment of primary air in burners. He pointed out that these three principles were correlated into what appears to be a practical method of predicting the stability of flames on burners when fuel gases are changed. Much work remains to be done before general use of the process is recommended, said Mr. Grumer. He stated that the necessary investigations are currently in progress as part of government and gas industry research programs.

Since appliance burners often must perform satisfactorily on various fuel gases which may differ considerably in their combustion characteristics, Walter B. Kirk, chief research engineer, and Earl J. Weber, senior research engineer, both of A. G. A. Laboratories, Cleveland, reviewed "Burner Flexibility on Base and Peak Load Gases." They reported that "the difference between the spans of the stable flame zone for any two burners is independent of the fuel gas." They also observed that "of all the burner design factors, port spacing probably will influence burner flexibility to the greatest degree," within other qualifications. In general, they said, "ordinary burners design factors do not influence burner flexibility to any great extent."

At present A. G. A. Laboratories is developing an instrument to be used by servicemen to obtain proper burner adjustment, they said. They then noted that each gas company would have to obtain data to predetermine proper adjustments for its local conditions.

After the first day's session, a late afternoon social hour was held in the Ohio Room as a courtesy of members of the Gas Appliance Manufacturers' Association.

A.G.A. nominates

(Continued from page 4)

OPERATING SECTION

For chairman

CHANNING W. WILSON, research chemist, Consolidated Gas Electric Light & Power Co. of Baltimore, Maryland

For vice-chairman

FREDERICK J. PFLUKE, superintendent, gas operations, Rochester Gas & Electric Corp., Rochester, New York

MANUFACTURERS SECTION

For chairman

GORDON LEFEBVRE, president, The Cooper-Bessemer Corp., Mt. Vernon, Ohio

PUBLICITY & ADVERTISING COMMITTEE

For chairman

W. M. KIMBALL, director of information, The Columbia Gas System, Inc., New York, New York

LABORATORIES MANAGING COMMITTEE

For chairman

ARTHUR F. BRIDGE, president and general manager, Southern Counties Gas Co., Los Angeles, California

For vice-chairman

CLARENCE H. WARING, vice-president in charge of Kansas City, Kansas, operations, The Gas Service Co., Kansas City, Kansas

Service

(Continued from page 28)

nite sign post which shows us how the architects are thinking. We have at our command a way to combat this tendency if we will but use it. These cafeteries are often run for the sole convenience of the employees with very little consideration given to the cost involved in operating the cafeteria. What we must appeal to is not so much that gas is cheaper to use as that gas is more flexible, faster and does a better cooking job. Frequently the people on their maintenance staff are not well enough versed on their gas cooking equipment to maintain such equipment at its peak performance. Unless people like ourselves with the know-how call on them and offer suggestions and follow through to make sure that the necessary adjustments are made, the chances are that the cooking equipment will not perform satisfactorily.

It is important that we be ever alert to the need of rendering the very highest type of service in a systematic way. This business of rendering good service works both ways; it helps our customer to do a more satisfactory job and thereby make more money, and it means that in the end he will be more profitable to us as an ambassador of good will and as a satisfied customer.

Operating

(Continued from page 34)

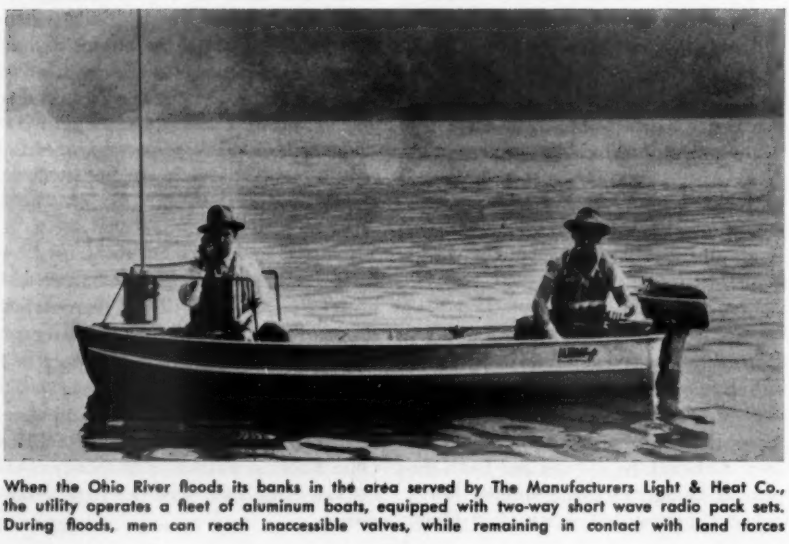
to the best method of maintaining purifier boxes in stand-by plants. High rates of gas flow was favored for more efficient hydrogen sulfide removal. It was recommended that the moisture content and alkalinity of the oxide be watched carefully for the best operations. Many valuable suggestions were offered under the subject of "Wrinkles."

Reports were made on tests conducted at several plants on the effect of natural gas reforming on superheater brick. A report was made on experimental work done on packless scrubbers but results so far are inconclusive.

At a general session meeting on Wednesday morning, at which E. G. Hammerschmidt presided, a paper pointing out the need for strict adherence to basic principles of safety and practical engineering in installations of LP-gas plants was delivered by William H. Kramer, Jr., Phillips Petroleum Co., New York. The training of operating personnel for LP-gas plants also is most important. A program for such training was outlined by S. C. Symonski, Philadelphia Gas Works Company.

Dr. O. W. Lusby, Consolidated Gas Electric Light & Power Co., of Baltimore, described a new type of hot oil fogger developed for operations at Baltimore. Reports for the Builders' Subcommittee and the Tar Dehydration Subcommittee were given by C. A. Schlegel, United Engineers & Constructors, Inc., Philadelphia, and Hermann Laudani, Malden & Melrose Gas Light Co., Malden, Mass., chairman of the respective

Utility insures service despite floods



When the Ohio River floods its banks in the area served by The Manufacturers Light & Heat Co., the utility operates a fleet of aluminum boats, equipped with two-way short wave radio pack sets. During floods, men can reach inaccessible valves, while remaining in contact with land forces

subcommittees. The morning session ended with a paper on controlling nuisance odors at odorization stations, which was prepared by Paul L. Covell, Minneapolis Gas Co., and delivered by A. M. Rader of the same company.

Four luncheon conferences were held on Wednesday. J. M. Spees, Koppers Co., Inc., Kearny, N. J., and J. F. Farnsworth, from the Verona plant of Koppers, presided at the carbonization and coke conference. Under the subject of safety, safe methods of blanking off idle equipment were given. Unusual accidents occurring during the year were described. Much attention was devoted to methods of controlling coal moisture, ash and atmospheric pollution in operating coke plants.

F. E. Vandaveer, The East Ohio Gas Co., Cleveland, and J. D. Parent, Institute of Gas Technology, Chicago, presided at the conference devoted to chemistry in the gas industry.

Aided by a number of attractive displays, the conference subjects ranged from odorants and leakage surveys to new books and new instruments for the industry and the photographing of gas flames. Dust problems and product combustibility also were topics for discussion.

The high Btu gas luncheon conference was directed by C. E. Utermohle, Consolidated Gas Electric Light & Power Co. of Baltimore and V. M. Perry, The Brooklyn Union Gas Company. The discussion topics included selection of oils, tar dehydration, checker brick, safety in plant operation and methods of conversion. The discussion also covered control of pH separator water, interchangeability and the limiting factors affecting control of oil gas set operation.

At the LP-gas luncheon, at which Ward A. Meldrum, Michigan Consolidated Gas Co., Ann Arbor, Mich., and Dean B. Seifried, Rockland Gas Co., presided, the papers on LP-gas safety delivered at the morning session were reviewed. A question card period enlivened the discussion.

Nation's largest cooking school attracts 9,000

AN INVISIBLE COOK was the hit of a gigantic cooking school held in Pasadena, Calif., which boasted an enrollment of 9,000 women. The show was sponsored by the Southern California Gas Co., local newspapers and Gas Appliance Manufacturers Association. Frank Murray, utility district manager, reports that it was the biggest cooking school ever held in the United States.

The little woman who wasn't there was Maxine Howe, Southern California Gas Co.'s home economist, who acted as cooking instructor. The disembodied effect was achieved by treating the range, chef's hat, gloves, apron, and utensils with luminous paint. A "black light" spotlight was used so that the attention of the audience was dramatically focused upon every move Mrs. Howe made.

A similar demonstration was made with a gas dryer. Both were so successful that plans are now under way to stage similar type shows in other cities.

Representatives of various appliance manufacturers attended the show, explaining the operation of their products, featured during the school sessions.

Look Mom! No body!

Research in news

(Continued from page 29)

greater distance between their hot and cold junctions in order to allow installation of cold junctions in low ambient temperature zones. More rugged thermocouple connection wires are also indicated to alleviate field difficulties from burned out thermocouples. Improved pilot burner primary air control and protection of air openings in pilot burners from dust and lint represent other desirable features. Such improvements, it is believed, would be of material help in the successful application of automatic ignition systems to commercial cooking equipment.

Commercial applications must be carefully engineered in order to avoid difficulties imposed by high operating temperatures; atmospheric conditions of draft, grease, dust and lint; and physical abuse. Satisfactory applications were obtained with nine pilot burner-thermocouple type systems and three electric ignition systems when installed according to the manufacturer's recommendations. Any deviations from these basic recommendations tended to impair system operation.

Experimental work for this investigation was conducted by L. V. Cachat of the Laboratories staff. Mr. Cachat, in cooperation with L. J. Kane, is the author of the publication. Copies may be obtained from the A. G. A. Laboratories for $1.50 a copy.

Manufacturer cooperates

A LEADING GAS RANGE manufacturer has developed a plan through which schools can have modern ranges for home economics classroom work.

Details of the program, sponsored by the Chambers Corp., Shelbyville, Ind., were disclosed at the 1952 American Home Economics Association Convention.

In the agreement, the manufacturer's dealers and distributors will install new ranges at special prices and will replace these with new models as they are produced.

Dealers selling aid

New point of sale display for Universal's Wheel-about range is life sized, full color, varnish protected and mounted on sturdy board. Revolving drum unit presents six views of different uses for storage cart, unique feature of range design

Worker conferences

(Continued from page 23)

fered with the best intentions, it may be resented by the employee unless the supervisor is prepared to back it up with concrete examples. Get the facts. Rather than saying, "I think you ought to try to improve your tardiness record, John," it might be better to cover this subject by pointing out that he was late for work five times in the last two months and that you'd like to get his slant on how this record could be improved.

In discussing work performance, be sure to consider both the quality of the employee's work and how much work he produces. If either or both of these are directly measurable, give him some indication as to how his actual record compares with your expectations. If they are not directly measurable you can still give him the benefit of how you think his work performance measures up to your standards for him.

In discussing personal qualities, ask yourself such questions as:

To what extent will the employee accept suggestions?

Does he have a tendency to ignore or resent my directions, or is he usually willing to give them a fair trial?

To what degree does the employee make an effort to help his fellow employees with their work?

Does he use good judgment in knowing how far to go in helping others without letting his own work suffer?

How well does he get along with others? Does he seem to be "one of the gang" or are his relations such that they either handicap him in his present work or keep him from getting a promotion?

If the employee loses considerable time, is it within his control to do anything to improve? Considering his health, can I expect him to do any better? (If the employee has a good attendance and tardiness record, this is an opportunity to give him credit.)

What is this employee's actual safety record for the period covered by this report?

Considering the sort of work the employee does, is the employee as neat in appearance as he should be to make a favorable impression on others?

Is he in the right job? Would he be better placed in some other line of work?

Plan for progress discussion

1. Plan the Interview—Decide on time and place, get all the facts, plan the approach to suit the individual.

2. Put the Employee at Ease—Talk first about his outside interests or about the general idea of the progress interview. Be friendly!

3. Explain Fully the Purpose—*Each* time be sure to point out one or two ways in which it benefits *him*.

4. Talk About Good Points First. Then Cover Each Point in Detail—Avoid starting out on a weak point.

5. Get the Employee's Slant on Each Item—Don't just tell him how you feel. Encourage him to make self-evaluations as you go along. People are often more critical of their own job performance than a good supervisor dare be. Give the employee the first chance to offer constructive criticism and you make progress reporting easier for you and even more acceptable to him.

6. Summarize Strong and Weak Points and Develop Plan for Improvement.

Accounting

(Continued from page 26)

to you to try to function as a satisfactory substitute for the lack of "automatic" controls. Your audits of these locations will, of course, be more frequent and on more of a surprise basis than usual. Perhaps persons in these jobs subject to little control could be rotated, i.e., transferred to other jobs periodically, to keep them off balance. They should certainly be forced to take regular vacations

Management should be apprized of these control blind spots, and if the risks are large the question of fidelity insurance should be given adequate consideration.

And, above all—use the tools your committee has given you. The Accounts payable—purchasing program, and the Accounts receivable—revenue program provided you are certainly excellent check lists for an over-all review of these operations. These programs are notable insomuch as they do not merely provide for routine audit checks—they stress the internal controls and emphasize the fact that adequacy of controls is as much a part of our job as is accuracy of accounts. Programs covering cash, inventories, and payrolls are in process at the present time. When these are finished most of the main areas in which major frauds and defalcations occur will have been covered.

If we pool all of our experiences we will have a reservoir of knowledge sufficient to enable us to effectively cope with just about any problems that may arise.

Copies of the Internal Auditing Committee's audit case histories were sent to all members of the Accounting Section. Each member should review them carefully and consider the findings in the light of his own company's system. And to make this study even more valuable, each member who has not sent in the case history of any embezzlement that occurred in his company should do so at once. A pooling of experience will create a reservoir of knowledge sufficient to cope with just about any problems that may arise.

Leadership

(Continued from page 20)

casting and projecting techniques, and market research with the emphasis on maximizing long-range utilization efficiencies.

There are many other worthwhile projects which the industry should undertake. For example, we are doing far too little in appliance research; and considering how much we have accomplished with a modest industry expenditure in recent years, it seems fairly certain that the results could be most gratifying with a relatively small additional effort.

A comprehensive program for the future should include:

(1) *An increased contribution by the industry toward research.* An effort should be made to obtain a commitment from the companies to increase the gas industry sponsored research for a start to $5 million annually. This would represent an expenditure of the industry of about 2/10 of a cent per revenue dollar.

(2) *A reinforced research staff.* Basic supervision of industry research by industry committees is highly important. At the same time, it is impractical to

embark on an enlarged research program without first reinforcing the staff which will direct the actual work. This implies no criticism of the men now so engaged, but it is simply common sense that if we are to increase our expenditure ten-fold we must expect to increase the staff responsible for its efficient use.

The research problem is a big one that will be with us for many years and a method should be devised for financing it on a long term rather than a year to year basis.

(3) *Cooperation with other industries.* We should take steps immediately to develop joint research projects with other industries in fields of mutual interest. This will not only obtain for us a saving in cost, it will also provide us the benefits of technical progress outside our own industry.

Necessarily, this broadly painted three-point plan for action will need much detailed implementation. Perhaps the specific references to suggested fields of research are open to argument. But errors of omission are far more serious than errors of commission. The time for doing is now. The refinements and modifications can be worked out as the program unfolds. Let us now take action in a concrete and meaningful way which will put us on top of the situation in the troublesome but opportunity-laden twenty years which lie ahead.

Meat shrinkage

(Continued from page 15)

these data that total shrinkage of the two paired roasts was essentially the same. The difference of 1.0 percent (or about 0.05 lb.) which did occur was well within the limits of experimental error. The most notable difference observed was in the amount of shrinkage occurring as drippings or evaporation. For example, during the roasting period, the meat in the gas oven lost considerably more weight by evaporation than did the roast in the electric oven. On the other hand, when the roasts were removed from the ovens and allowed to reach their maximum internal temperatures, the roast from the electric oven showed a greater evaporation loss. One possible reason for this latter occurrence might be the fact that the roast from the electric oven increased in internal temperature from 140 F to 144 F after it was removed from the oven, whereas the temperature of the roast from the gas oven never exceeded 140 F.

As might be expected from the shrinkage data, no difference could be discerned in the general appearance of the two roasts. Past experience had indicated that in some models of electric ranges, excessive heat from the top element tended to sear the surface fat of standing rib roasts and produce greater browning. However, the fact that the top element in the electric range employed operated at a reduced rate of only 300 watts probably accounted for the failure of this searing effect to take place.

Temperatures maintained by the gas and electric ovens during the roasting operation at a thermostat setting of 250 F are shown in figures 1 and 2 respectively. Prior to inserting the meat, the gas oven had reached an equilibrium temperature of 260 F and the electric oven an average equilibrium temperature of 255 F. Placement of a roast in the gas oven caused oven temperature to decrease to 223 F. Immediately after the oven door was closed, temperature gradually increased and had recovered to 250 F by the end of 28 minutes. It then continued to increase to 253 F and remained at this level, with only minor variations, until the roast was removed. When a roast was placed in the electric oven, temperature of the oven decreased to 230 F. After the door was closed, the oven temperature recovered to 250 F in about two minutes. It then cycled at an average temperature of about 245 F for 26 minutes, and thereafter operated at an average temperature of about 248 F until the roast was removed.

Despite these differences in operating characteristics of the two ovens, total roasting times were quite similar. The roast in the gas oven required a total of 3.05 hours to attain an internal temperature of 140 F, while the roast in the electric oven required a total of 3.09 hours. Expressing this on the basis of minutes per pound, the roast in the gas oven required 36.8 minutes, the roast in the electric oven 37.4 minutes.

The results of this new series of meat shrinkage tests in domestic ranges confirms many prior investigations carried out by universities, meat packers and other agencies including those of the government. Given identical roasts, shrinkage is the same in gas and electric ovens when operating at the same thermostat setting. When differences have been reported, they were undoubtedly traceable to calibration errors and differences in meat composition.

CONVENTION CALENDAR

1952

SEPTEMBER

3-5 •Pacific Coast Gas Association, Ambassador Hotel, Los Angeles, Calif.

8-10 •A.S.A. Third National Standardization Conference, Museum of Science and Industry, Chicago, Ill.

12 •New Jersey Gas Association, Monmouth Hotel, Spring Lake, N. J.

22-24 •American Trade Association Executives, Annual Meeting, Royal York Hotel, Toronto, Ontario.

OCTOBER

1-3 •Wisconsin Utilities Association, Technical and Sales Sections Convention, Schroeder Hotel, Milwaukee, Wis.

20-24 •National Safety Congress and Exposition of the National Safety Council, Chicago, Ill.

20-24 •National Metal Exposition, Philadelphia, Pa.

21-24 •The American Dietetic Association Exposition, Minneapolis, Minn.

27-30 •A. G. A. Annual Convention, Auditorium, Atlantic City, N. J.

27-31 •GAMA Exposition, Auditorium, Atlantic City, N. J.

NOVEMBER

10-13 •American Petroleum Institute, Annual Meeting, Chicago, Ill.

19 •American Standards Association, Waldorf Astoria, New York.

20-21 •Mid-Southeastern Gas Association, Annual Meeting, Sir Walter Hotel, Raleigh, N. C.

30-Dec. 5 •American Society of Mechanical Engineers, Hotel Statler, New York, N. Y.

1953

FEBRUARY

2-4 •A. G. A. Home Service Workshop, Baker Hotel, Dallas, Texas

MARCH

2-6 •American Society for Testing Materials, Hotel Statler, Detroit, Mich.

16-20 •National Association of Corrosion Engineers, Hotel Sherman, Chicago, Ill.

26-27 •New England Gas Association, Hotel Statler, Boston, Mass.

27-29 •Mid-West Regional Gas Sales Conference, Edgewater Beach Hotel, Chicago, Ill.

30-April 1 •Mid-West Gas Association, Broadmoor Hotel, Colorado Springs, Colorado

APRIL

12-16 •A. G. A. Distribution, Motor Vehicles and Corrosion Conference, Hotel Sherman, Chicago, Ill.

20-22 •National Conference of Electric and Gas Utility Accountants, Hotel Sherman, Chicago, Ill.

Personnel service

SERVICES OFFERED

Gas Sales Manager—19 years' experience as salesman and administrator in installation domestic gas appliances, instruction and supervision of Sales Department in manufactured and natural gas; also experience in Dealer-Plumber relations. Presently employed as Sales Manager. Married. Desires opening where experience will be fully utilized. (45). **1702.**

Assistant to General Manager—17 years' experience in sales, sales management, legal and corporate secretary's departments of large eastern gas utilities, member of New York Bar. Available within 30 days. Married. (43). **1703**

Sales or Operational—18 years' experience in the gas industry, in the fields of sales, sales supervision, utilization engineering and operational management. College degree, have been commercial and industrial manager (26,000 meters) and responsible for industrial, house heating, commercial and government accounts including sales and service. A good practical knowledge of most every phase of the utility business. Resume available or interview can be arranged readily. **1704.**

Utilization-Sales—15 years of gas distribution and utilization experience. Experience has included management and sales. Would consider traveling as sales and service representative. **1705.**

Chemist—College graduate with a bachelor of science degree in chemistry. Good background in chemistry, including two years of physical chemistry, and various other sciences as well as mathematics. Male, single, willing to travel and draft exempt. (21). **1706.**

Manager—Recent experience includes participation in conversion from manufactured to propane-air gas, construction of propane-air mixing, and bulk cylinder filling propane plants. Also supervision of construction of necessary facilities for changeover from manufactured to natural gas and conversion. Previously employed in managerial capacity for twenty years in two separate gas properties. (44). **1707.**

POSITIONS OPEN

Sales Representatives—for an old established line of gas-fired furnaces, boilers, floor heaters, and conversion burners. Open territory in Wisconsin, Minnesota, Missouri, West Virginia, Kentucky, the Carolinas, Georgia, and Florida. **0649.**

Engineer-Design—Experienced in gas plant design for extensive program of new construction and improvement to present plant facilities by large eastern gas manufacturing company. Salary commensurate with experience. **0650.**

Assistant General Superintendent—Gas Operation for middle west gas utility serving city over 250,000. Age 35-40, with 10 years' or more utility experience, preferably in gas operation. Technical degree preferred. Must be able to assume top management duties, including administration, public relations, and supervision of all phases of gas operations. Attractive salary commensurate with abilities and responsibilities. Please give full information of positions held and references. **0651.**

Industrial Gas Engineer—with 2 or 3 years' experience in the engineering and sale of industrial gas equipment. Man will be given complete charge of the sale of standard furnaces and ovens. Will also have a voice in the design and development of new equipment along these lines. **0652.**

Sales Promotion—Combination utility, 75 miles from New York City, has opening for young man interested in all phases of selling. Utility does not sell appliances directly but promotes domestic and commercial gas and electric equipment through local appliance dealers, department and specialty stores. Work entails forecasts, sales planning, personal contact. Experience in this particular field not essential but applicant should have a good general business background. An engineering background would also be helpful. Outstanding opportunity to learn. Mail qualifications and experience. **0653.**

Gas Engineer—Growing natural gas company located in north central area has opening for gas engineer experienced in preparation of material for presentation to regulatory bodies and in gas distribution work, including appliance installation on customers' premises. Salary commensurate with ability and experience. Replies confidential. **0654.**

Industrial Engineer—Experienced on time study, methods, processing and estimating in the gas heating or related fields. A new job created by reorganization and expansion of certain activities in the heater division of a long-established corporation. Location—Indianapolis. A resume, detailing qualifications and salary requirement, will receive prompt attention. **0655.**

Project Engineer—New product research with advancement possibilities for engineer experienced in design and development of gas furnaces or other home appliances. The position is in Indianapolis, with the heater division of a well-known corporation. A resume with complete details will receive full consideration and a prompt reply. **0656.**

Industrial Gas Engineer—Progressive midwestern utility, located in highly industrialized area, has opening for man experienced in promoting sales of natural gas for industrial and commercial purposes. Should be familiar with problems involved in use of gas for heating and processing. No traveling. Give complete details of personal data, training, and experience. State approximate salary expected. **0657.**

Home Economist to conduct theater cooking schools for large mid-west utility. Will need to travel. Applicants should state education and experience. **0658.**

District Home Service Director for one division of large mid-west utility. Work includes all home service activities plus supervision of two other home economists. Include experience with letter of application. **0659.**

Gas Sales Manager—Aggressive administrator and salesman, able to recruit sales force and lead and drive them to real results. Real opportunity for able man in northeastern manufactured gas utility. Salary, commission and override. Record in similar assignment necessary. Only those submitting full details in first letter considered. **0660.**

Gas Appliance Salesman—For northeastern manufactured gas utility. Fine earnings opportunity for young hard-hitting salesman. Other appliance sales experience or general sales experience, which includes canvassing, will be considered. Salary and commission. Really reasonable living costs at assigned location. Full details in first letter. **0661.**

Project Engineer to take charge of design and development of gas fired unit heaters and furnaces by company manufacturing a varied line of air conditioning and heating equipment. Please give education and experience. **0662.**

Sales Representatives—A well organized gas company serving New Jersey has openings for three men between 25 and 35 years of age as industrial and commercial sales representatives. A good salary, and an excellent chance for advancement are awaiting aggressive men with technical sales background. **0663.**

Rights of way

(Continued from page 12)

damage. From wide experience it is best for the total value of this damage to be calculated then to the satisfaction of both the owner and the company. At the time when an agreement is reached, the best and, judging from our experience, the most satisfactory method is to make full settlement at once. If the agent is in a position to write a check for the full amount of the damage decided upon at the time, it usually works out for the ultimate benefit and satisfaction of both the company and landowner. Of course, in those cases where agreement cannot be reached at the time as to the amount, it is necessary to extend those negotiations, but in most cases it is possible to reach an immediate mutual satisfactory agreement.

In many cases there are damages which have occurred off the right of way and in those cases it is important that the contractor have a qualified claims adjustor. It is desirable that this adjustor accompany the company adjustor and make settlement of those claims at the same time that the claims for damages within the right of way are settled.

The uninformed think that once a pipeline is in the ground that's the end of it and the pipeline company will have little or no further dealings along the line. That, of course, is not the case, for when a pipeline is laid it almost invariably develops that some additional cleanup or other maintenance problems will throw company representatives in direct contact with the landowner again. The company is also actually a substantial purchaser of power and materials from local concerns. The people along the lines will ultimately come to realize this, and it lays a good foundation as the initial relations of the right of way men with landowners in new areas. It is extremely important in these initial negotiations that both the pipeline company and its employees are conscious of and respectful of the rights of the landowners.

Christian faith

● Christian faith is a grand cathedral, with divinely pictured windows. Standing without you see no glory, nor can imagine any. But standing within every ray of light reveals a harmony of unspeakable splendors.

—*Nathaniel Hawthorne*

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